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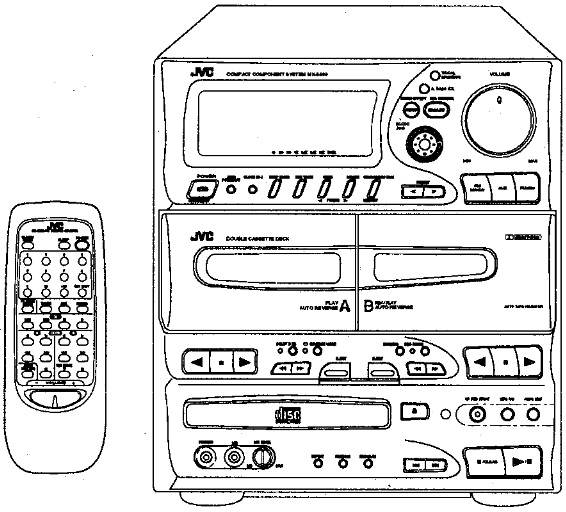
JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

CA-S300

PIC UP	OPT-6S
Lsi	MN662721RAM



Area Suffix

A	Australia
BS	the U.K.
E	Continental Europe
G	Germany
GI	Italy
VX	East Europe
US	Singapore
UT	Taiwan
U	Other Area

COMPACT
disc
DIGITAL AUDIO

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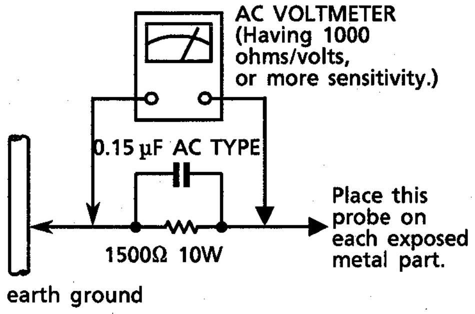
No. 20496
Jan. 1995

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, contorl shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10 W resistor paralleled by a 0.15 µF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor.
     Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).


AC VOLTMETER
(Having 1000 ohms/volts, or more sensitivity.)
0.15 µF AC TYPE
1500Ω 10W
Place this probe on each exposed metal part.
Good earth ground

Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Important for Laser Products

1. CLASS 1 LASER PRODUCT
2. DANGER : Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
4. CAUTION : The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. CAUTION : If safety switches malfunction, the laser is able to function.
6. CAUTION : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

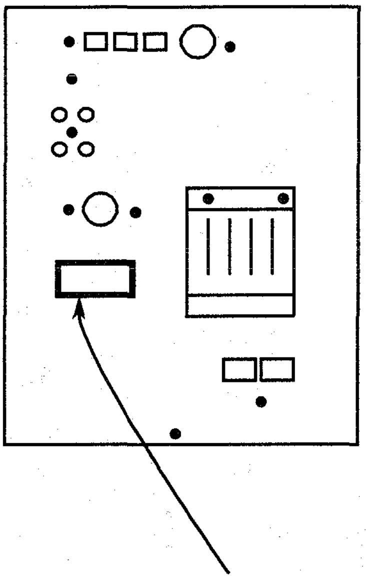
VARNING : Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

ADVARSEL : Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

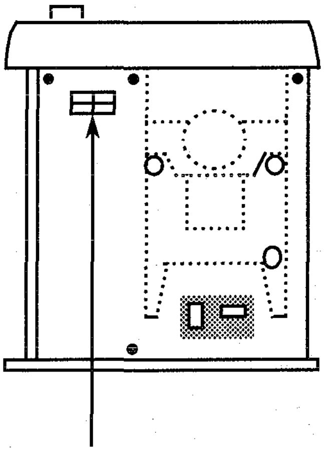
ADVARSEL : Usynlig laserstråling ved åpning, når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS



CLASS 1
LASER PRODUCT

CLASSIFICATION LABEL
(Except for the U.S.A. and Canada)



WARNING LABEL
(Except for the U.S,A)

DANGER: invisible laser
radiation when open and
interlock failed or defeated.
AVOID DIRECT EXPOSURE
TO BEAM. (e)

VARNING: Osynling laser-
stråling när denna del
å öppnad och spärren är
urkoppled. Betrakta ej
stålen. (s)

ADVARSEL: Usynling laser-
stråling ved åbning, når
sikkerhedsafbrydere er ude
at funktion. Undgåudsæt-
telse for stråling. (d)

VARO: Avattaessa ja suo-
jalukitus ohitettaessa olet
alttiina näkymättömälle
lasersäteilylle. Älä katso
säteeseen. (f)

Features

Here are some of the things that make your CA-S300 powerful and easy to use.

Great sound

- ☐ To get such **great sound** from such a compact package the CA-S300 has:
  - Pre-programmed live surround effects like **D.CLUB, HALL, STADIUM,** as well as SEA effects like **ROCK, POPS, CLASSIC, MANUAL,** so you don't have to be a sound engineer to get great effects.

Easy operation

- ☐ The controls and operations have been redesigned to make them very easy to use so you can spend your time listening to music.
  - With the One Touch Operation feature of JVC's new **COMPUPLAY** you can turn on the CA-S300 and start the radio, the tape deck, or the CD player with a single touch.
  - Four timers, **REC Timer, DAILY Timer, SLEEP Timer** and **AUTO POWER OFF** are extremely easy to set, so you can really use them.
  - The **Display** is large and clear. It's organized so you can tell at a glance what's happening because functions light up as you use them, and blink to tell you they are ready. It gives you some important messages like "NO DISC," "NO TAPE" and some others.
  - **Auto Edit** figures out how to arrange CD tracks on a tape. When you are recording a tape from a CD, the selections aren't cut off if the tape ends before the selection does.

Sing along

- ☐ You can use conventional tapes and CDs for singing along with the voice canceller system. With an optional microphone, you can replace the lead singer's voice on your favorite songs with your own.

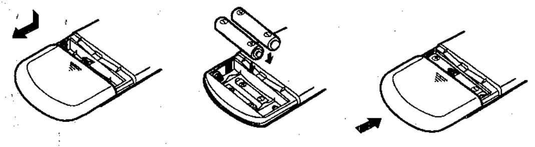
IMPORTANT CAUTIONS

1. **Installation of the Unit**
   - Select a place which is level, dry and neither too hot nor too cold (between 5°C and 35°C).
   - Leave sufficient distance between the Unit and your TV.
   - Do not use the Unit in a place subject to vibrations.
2. **Power cord**
   - Do not handle the power cord with wet hands!
   - When unplugging from the wall outlet, always pull the plug, not the power cord.
3. **Malfunctions, etc.**
   - There are no user serviceable parts inside. If anything goes wrong, unplug the power cord and consult your dealer.
   - Do not insert any metallic object into the Unit.

How to Put Batteries in the Remote Control

Match the polarity (+ and –) on the batteries with the + and – markings on the battery compartment.

R03(UM-4)/AAA(24F)



CAUTIONS: Observe Proper Handling of Batteries.
To avoid battery leakage or explosion:

- If the range or effectiveness of the remote control decreases, replace the batteries.
- Remove batteries when the Remote will not be used for a long time.
- When you need to replace the batteries, replace both batteries at the same time with new ones.
- Don't use an old battery together with a new one.
- Don't use different types of batteries together.
- Strong impact on the remote control may cause batteries to drop out of the battery compartment.

Read Me First

How to get the most for your money by using this manual.

The Engineers at JVC have made the CA-S300 very easy to use, and if you are experienced at using audio equipment, you can figure out how to use some of the CA-S300 controls by yourself. However, we have built some new features into this model, which you can learn about easily from the manual.

If you are a new user or just want a review, this manual explains how to use the CA-S300 and take advantage of its features for playing and recording music, as well as other sounds. One way to use this manual is to read it through now and refer back to it when you need to refresh your skills for some special operation. Of course you can just look up the topics, such as recording a CD, that you want to do, but remember that you may need to refer to other parts of the manual for some of the instruction: for instance, in explaining how to record a CD, we assume you already know how to load a CD. That's why we recommend that you read the manual through once before starting. We've made it short, and easy to follow.

However before you proceed, please read the Cautions on page 2 and the set-up directions.

How This Manual Is Organized

IMPORTANT!
Special features for a special Manual.

We have incorporated some special features in this manual:

- Basic information that is the same for many different functions is grouped in one place, and not repeated in each procedure. For instance, in the section on playing a CD, we do not repeat the information about setting the volume and the sound conditioning, which are mentioned in the Common Operations section.
- Names of buttons, controls and function names that light up on the display panel are written in all Capital letters like this: POWER.
- When we are talking about the Function, rather than the BUTTON or DISPLAY, then we just capitalize the first letter of the words.
- The ☞ alerts you to important information or how to solve special problems that may occur when using the CA-S300.

The column on the left of the page is a special place to make it easier to find just what you want to know about, with little headlines announcing what each part of the page is about. Sometimes illustrations and helpful hints are placed here also.
Basically we use three kinds of information to help you understand and use the CA-S300:

- ☐ Information about what you can do (such as record a CD or preset a radio station) and how the Unit is designed to make doing this activity easy.
- ☐ Procedures, usually numbered in the order you do the steps, to guide you in exactly what to do to accomplish something, such as tune a radio station or record a tape.
- ☐ Information you need to know to make decisions about which functions of the CA-S300 to use for particular tasks (such as when to use Dolby NR to improve tape sound) and special hints to make your work go smoothly, like reminding you to set the sound effects before starting the CD to tape recording, since they cannot be changed once recording begins without starting completely over.

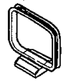
The manual has a table of contents to help you easily look up what you want to know too.
We've enjoyed making this manual for you, and hope you will use it to enjoy the sound and many features built into your CA-S300.

Getting Started Right

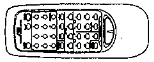
Unpacking

Inside the packing box....

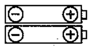
Of course you have already opened your CA-S300 carton, since you are reading this manual. Although the Unit is quite sturdy, you may want to save the packing to re-pack your CA-S300 in case you are moving it some distance.
Check to be sure you have all of the following things, which are supplied with the CA-S300:



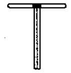
AM (MW/LW) Antenna



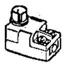
Remote Control



Batteries (x2)



FM Feeder Antenna



Antenna Adaptor

If any are missing, contact your dealer immediately.

Location

Where can you put it?

You can place the CA-S300 in many different kinds of locations to suit your needs; just observe the Important cautions on page 2: keep away from moisture and heat; leave some space between the Unit and its surroundings, more than 1 cm at the sides of the console and 10 cm at the back.

Set Up

Very little assembly required

You will need to do the following four things to get your CA-S300 ready to use.
1. Connect the Antenna(s).
2. Connect the Speakers.
3. Put Batteries (included) in the Remote.
4. Connect other sound sources (VCR, Record Player) if used.

1. Connect the Antenna(s)

Please look at the diagrams on pages 5 and 6 to do these things.

Follow the diagrams on page 5. Here's what you need to know:
- ☐ For AM (MW/LW) (LW: except for Australia) reception you must connect the supplied loop antenna. If reception is poor, connect the outside antenna, but leave the loop antenna in place—the AM (MW/LW) (LW: except for Australia) will not work correctly without it.
- ☐ For FM reception, connect the supplied wire as shown. However, if you use an outdoor antenna, disconnect the indoor FM antenna first.
- ☐ To avoid noise, keep antennas away from metalic parts of the CA-S300, connecting cords and the AC power cord.

2. Connect the Speakers

Basically, you look at the diagrams on page 6 and follow the pictured instructions.

3. Put Batteries in the Remote

Pay close attention to getting the batteries in correctly—we've made it very easy, just match the + and – marks on the batteries with the + and – markings on the Remote. See page 2 for instructions.

CAUTION: Handle batteries with care. See page 2 for proper use of batteries.

4. Connect Other Sound Sources, such as VCR or Record Player (Optional)

You can play the sound portion of a TV program or video tape through your CA-S300's sound system, often improving it greatly. A VCR or Record Player can also be hooked up to play through the CA-S300. Just follow the diagram on page 6. In order to play a connected source through the CA-S300.

CAUTION: DO NOT connect optional equipment while the power is ON.

Now you can plug the AC power cord into the wall socket. The standby indicator lights up and the clock display starts blinking. Your CA-S300 is at your command!

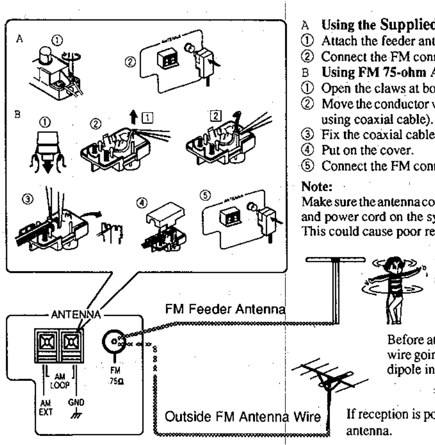
CAUTION: First make all connections before plugging the Unit into any AC power outlet.

Read on and find out how to use the many features built into your Unit..........

Connection Diagrams and Instructions

Connecting the FM and AM (MW/LW) Antennas

FM Antenna Connections



A **Using the Supplied Feeder Antenna**
① Attach the feeder antenna to the FM connector as shown in the figure.
② Connect the FM connector to the FM 75-ohm COAXIAL terminal.

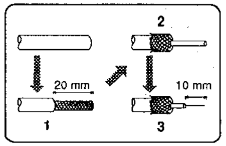
B **Using FM 75-ohm Antenna Cable (Not Supplied)**
① Open the claws at both sides and remove the cover.
② Move the conductor wire from 1 to 2 using tweezers or a similar tool (only when using coaxial cable).
③ Fix the coaxial cable and its core.
④ Put on the cover.
⑤ Connect the FM connector on the FM 75-ohm COAXIAL terminal.

Note:
Make sure the antenna conductor does not touch any other terminals, connecting cords and power cord on the system.
This could cause poor reception.

Unfold the loops of the supplied dipole FM feeder antenna and extend them as shown. Fasten them up in the position which gives you the best FM reception.

Before attaching a 75 ohm coaxial lead (the kind of round wire going to an outside antenna), disconnect the supplied dipole indoor antenna.

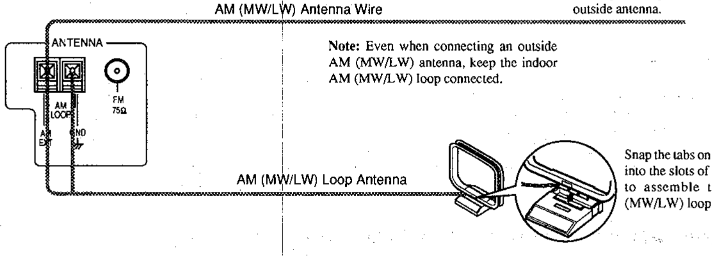
If reception is poor, connect the outside antenna.



How to Strip the 75-ohm Coaxial Cable
1. Strip back the outside covering of the 75 ohm coaxial cable to expose the braided metallic mesh.
2. Pull the mesh back and twist into a single connector as shown.
3. Strip the insulation about 10 mm back from the central wire.
4. Attach to the supplied Antenna Adaptor, as shown in the diagram above.

AM (MW/LW) Antenna Connections

LW: except for Australia

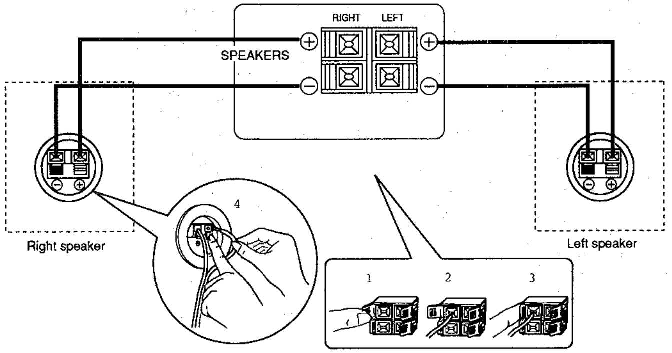


If reception is poor, connect the outside antenna.

Note: Even when connecting an outside AM (MW/LW) antenna, keep the indoor AM (MW/LW) loop connected.

Snap the tabs on the loop into the slots of the base to assemble the AM (MW/LW) loop.

Connecting the Speakers



For each speaker connect one end of the speaker wire to the speaker terminals on the back of the CA-S300 and one end to the speaker. On the back panel:

1. Open each terminal.
2. Insert the end of the speaker wire as shown (be sure to remove the insulation at the end of each wire first).
3. Close the terminals to clamp the speaker wires firmly in place.
4. Connect the red (+) and black (–) terminals of the right side speaker to the red (+) and black (–) terminals marked RIGHT on the CA-S300.
   Connect the red (+) and black (–) terminals of the left side speaker to the red (+) and black (–) terminals marked LEFT on the CA-S300.

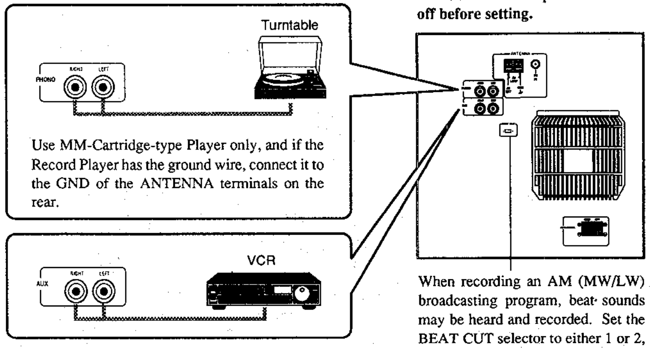
IMPORTANT: Match the polarity of the speaker terminals with the polarity of the terminals on the CA-S300, red (+) to red (+) and black (–) to black (–).
Check your speakers for correct impedance: from 6 ohms to 16 ohms.

Connecting Auxiliary Equipment

IMPORTANT
Make sure that the power is turned off before setting.

Record Player

VCR



Use MM-Cartridge-type Player only, and if the Record Player has the ground wire, connect it to the GND of the ANTENNA terminals on the rear.

When recording an AM (MW/LW) broadcasting program, beat sounds may be heard and recorded. Set the BEAT CUT selector to either 1 or 2, so that beat sounds will not be heard or recorded.

(except for Australia)

Common Operations

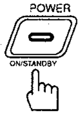
Here are the things that apply to all the functions of your CA-S300. If something in a procedure is unclear to you, check back here.

The Magic of

COMPU PLAY

COMPUPLAY

COMPUPLAY is JVC's new feature that lets you control the most used functions of the CA-S300 with a single touch. This One Touch Operation starts playing a CD, turns on the radio, plays a tape, etc. with a single press of the play button for that function. What One Touch Operation does for you is to turn the power on, then start the function you have called for. If the Unit is not ready, such as no CD or tape in place, the Unit still comes on and then gives you a message on the display so you can put in a CD or tape.
How One Touch Operation works in each case is explained in the respective section about that function.



Turning the CA-S300 On

Press POWER; the stand-by indicator on POWER goes out.

- ☐ The CA-S300 comes on ready to do whatever it was doing when the power was last shut off. So if the last thing you were doing was listening to a tape in deck B, you now are ready to listen to a tape again in deck B, or you can change to another source.
- ☐ If you were listening to the radio last, the radio comes on playing that last station.

Turning the CA-S300 Off

Press POWER again; the stand-by indicator lights up and the display is blank except for the clock display.

- ☐ A small amount of power (13 watts) is always consumed even though the power is turned off (called standby mode).
- ☐ To switch the power off completely, unplug the power cord.

☞ If the power cord is unplugged, preset stations may be erased and the clock will lose its setting. Resetting is necessary.

Making it sound the way *You* want it to:

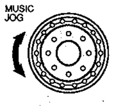
Controlling the Sound

The same set of buttons and knobs control the sound, no matter which function is producing it. Here we will briefly explain how these controls work, and how you can use them to increase your enjoyment of the music.

•Volume

Volume Control

Rotate clockwise to increase loudness, counter-clockwise to reduce loudness. Be sure to read the caution at the end of this section about high sound levels damaging your hearing or your equipment.



Sound Modes

The CA-S300 has some preset sound effects that let you control the way your music sounds, so you can tailor it for your room and for the quality of the source. We can give you some idea of how each one affects the music, but the only way to really tell is try them yourself.
You can use only one effect at a time selecting from the MUSIC JOG dial (LIVE SURROUND and SEA effects). Feel free to experiment!
To get an effect, press the SOUND EFFECT ON/OFF button and the last live surround effects or sound mode is displayed. To select another effect, turn the dial so that the indicator lights up.
To cancel the effect, press the SOUND EFFECT ON/OFF button, and "OFF" will appear. You can turn the dial to select another effect.

•D.CLUB
•HALL
•STADIUM

LIVE SURROUND effects

With these effects, the sound coming from only two speakers approaches the quality of sound from four speakers.
•D.CLUB — Increase resonance and bass.
•HALL — Adds depth and brilliance to the sound, like in a concert hall.
•STADIUM — Adds clarity and spreads the sound, like in an outdoor stadium.

ROCK
POPS
CLASSIC
MANUAL

Preset SEA (Sound Effect Amplifier) effects

Adjustments of frequency range levels have been preset as four SEA effects.
ROCK — Used for boosting low and high frequencies.
POPS — Used for increasing the richness and fullness of the vocal sound.
CLASSIC — Used for wide and dynamic sounds.
MANUAL — Used for selecting frequencies instead of the preset ones.
e.g. To get a manual effect, press SEA CONTROL HIGH/LOW so that "SEA LOW" appears and low frequency level blinks on the display.
Press the button again so that "SEA HIGH" appears and high frequency level blinks on the display.
Turn the MUSIG JOG dial to select the effect level while the frequency level is blinking on the display.
The effect level you have selected comes into effect.

> ☞On the Remote, you can't find buttons for these preset sound effects. By pressing SOUND MODE on the Remote, you can cycle through the effects one after the other.

Things to remember about using preset effects:

- ☐ Set a preset effect before you start recording with Auto Edit, because once recording starts, the preset effect cannot be changed without stopping recording, and often having to start over. If you need different effects for each selection, use the standard recording features described on page 13, rather than Auto Edit.
- ☐ Each of the preset effects changes the sound in a different way by increasing or reducing the intensity of the sound. To see how each part of the sound will be changed, watch the display as you select an effect when music is playing. For a short while, the display shows the pattern of enhancement for that effect.

Active BASS Effect

The richness and fullness of the sound is maintained regardless of how high or low you set the VOLUME control.
To get the effect, press A. BASS EX. so that the indicator on the display lights up and "ACT - BASS" will appear for a few seconds.
To cancel the effect, press the button again so that the indicator goes off.

Listening with Headphones

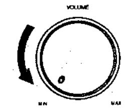
A pair of headphones can be connected to the PHONES jack on the front panel. **Be sure to turn down the volume before connecting or putting on headphones, as high volume can damage both the headphones and your hearing.**

The Display and the Indicators

The Display and the Indicators—Two Very Useful Hints

- ☐ The display tells you many useful things about what your Unit is doing. Watch it as you give instructions by pressing buttons. It also gives you some messages like "NO DISC", "NO TAPE", and some others to show you what to do next.
- ☐ Some of the controls have a small light, called an indicator, right next to or even right on the button or knob itself. The light comes on when the function is on, and goes off when it is not in use.

CAUTION: Too LOUD!



> **CAUTION:** Always set the VOLUME control to MIN before turning on a connected source such as a VCR or turntable, or starting any other of the sound sources such as the radio, tape, or CD player. Otherwise, if the VOLUME control is turned up, the sudden blast of sound energy can permanently damage your hearing and/or ruin your speakers.

Listening to the Radio

> You can listen to both MW/LW (AM) (LW: except for Australia) and FM.
> ☐ Before listening to the radio, check that both the MW/LW (AM) (LW: except for Australia) and FM antennas are firmly connected (See page 5).
> ☐ The FM MW/LW button is labeled differenty for the Australia and U.K. models:in the U.K. it is labeled FM MW/LW, and in Australia, FM/AM.

COMPU PLAY Radio

One Touch Radio

Just press FM MW/LW (LW: except for Australia) to turn on the Unit and start playing the most recent radio station tuned in.

- ☐ You can switch from any other sound source to the radio by pressing FM MW/LW. (LW: except for Australia)

Tuning in a Station

Press FM MW/LW (LW: except for Australia) to turn on the radio. The display shows the station frequency tuned to.

Three ways to tune in a station

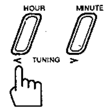
Three ways to select a station

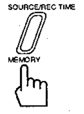
- Press TUNING < or > repeatedly to move from frequency to frequency until you find the one you want.
- Hold down TUNING < or >, the frequency starts changing on the display. When a station is tuned in, "TUNED" lights up on the display and the frequency stops changing.
- Press once and release PRESET < or > to go to the next preset station, or hold PRESET < or > to cycle through the preset stations: release the button when the preset station you want shows on the display. (This method is possible only after presetting stations.)

You can also use the Remote to tune in stations and preset channels:
To tune preselected stations with the Remote:

1. Press TUNER to select the band you want.
2. Select the station by entering the preset channel number in the 10 key pad of the Remote. (Refer to page 20).

How to preset FM and AM (MW/LW) radio stations

1.


2.


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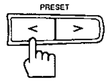

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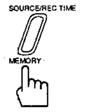


Presetting Stations

Once a station is assigned to a channel number, the station can be quickly tuned either from the Remote using the 10 key pad of the Remote or the CA-S300 itself using PRESET < or > to call up the channel number.

- ☐ You can preset 40 FM and AM (MW/LW) (LW: except for Australia) stations at random.

> ☞Preset stations may be erased when power is cut off to the Unit, as when it is unplugged from the AC outlet or a power failure occurs. If the preset stations are lost, simply set the stations again using the following procedure.

To preset radio stations

1. Tune in the station you want to set using TUNING < or >.
2. Press MEMORY.
   On the display "MEMORY" will blink for 4 seconds.

> ☞During these 4 seconds while "MEMORY" is blinking you can assign a channel number to the station and enter it into the memory.

3. Select a channel number by pressing PRESET < or > until you find the channel number you want.
4. Press MEMORY and the station will be assigned to the channel number showing on the display.
   - ☐ If a station has been previously stored using the same channel number, it will be erased and the newly selected station will be stored.

FM MODE /MUTE

Receiving in Stereo or Mono

When an FM stereo broadcast is hard to receive or noisy:

- ☐ Press FM MODE/MUTE on the remote control so that reception improves, although you lose the stereo effect. In this state, you will hear noise while tuning into stations.
- ☐ To restore stereo effect, press FM MODE/MUTE again so that "AUTO" appears on the display.
  In this state, when a program is broadcast in stereo, you will hear stereo sound; when in monaural, you will hear monaural sounds. Furthermore, in this state, you won't hear noise while tuning to stations.

COMPU PLAY

Compact Disc Play

Listening to a Compact Disc

The quickest way to start a CD is with the One Touch Operation:
- ❑ Press ▷/❚❚ on the CA-S300 or ▶ on the Remote.
  - If a CD is already loaded, the Unit automatically turns on and starts to play it from track 1.
  - If no CD is loaded, the Unit automatically turns on and the CD tray opens. This is exactly the same as what happens if you press ⏏ instead of ▷/❚❚.

Basics of Using the CD Player

Here are the basic things you need to know to play a CD and locate the different selections on it. Each selection is called a track, so when we are talking about locating a track, we are also talking about how you find a certain song or performance.

How to use the CD player: from the most basic to advanced

To Play a CD

1. Press ⏏.
2. Put a CD, printed side up, into the tray.
3. If you want to listen to the CD now, press ▷/❚❚ (or ▶ on the Remote).
   The display shows the track being played and the length of time since it started.

To stop the CD, press ■/CLEAR (or ■ on the Remote). When you start again, the CD begins with track 1.

To pause the play, press ▷/❚❚ while the CD is playing so when you press ▷/❚❚ again the CD starts just where you left off.

To remove a CD, press ⏏, take the CD out, and press ⏏ again to close the tray.
- ❑ Keep the tray closed except during loading and unloading to protect the mechanism from dust and damage.

How to find a track

How to Find the Track or a Particular Point You Want

Each time you press briefly and release ⏮ or ⏭ (⏮ or ⏭ on the Remote) the track changes by one.
- ❑ Press and release ⏭ (or ⏭ on the Remote) to go ahead one track at a time.
- ❑ Press and release ⏮ (or ⏮ on the Remote) to go back one track at a time.
- ❑ Holding down ⏮ or ⏭ will fast forward or fast reverse the CD so you can quickly find the particular part of a track you want to listen to. Fast forward and fast reverse are only possible by using the buttons on the Unit when the CD is playing.
- ❑ Holding down ⏮ or ⏭ on the Remote allows you to change the tracks continuously. (By using the buttons on the Unit, it is only possible when the CD is not playing.)

Using the Remote to find a track

Locating a Track with the Remote

Using the 10 key pad on the Remote allows you to go directly to the beginning of any track.
1. Press CD 10 KEY.
2. Enter the number of the track you want using the 10 key pad. The selected track will start to play.
   - Example: for track 5, press 5. For track 15, press +10 then 5. For track 20, press +10, then 10.

Programming the Playing Order of the Tracks

With programming, you can play back tracks in any order

In addition to the high quality sound which makes the CD such a good way to listen to music, you can change the order in which the tracks play.

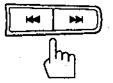
Random Play

The tracks will play in no special order when you use this play mode.
Before starting a CD, press RANDOM on the CA-S300.
When all of the tracks have been played, the CD shuts off.
- ❑ Press REPEAT before or during random play to instruct the CA-S300 to continue with a different random track selection after the last selection is played.

To cancel random play, press ■/CLEAR (or ■ on the Remote).

How to program: just 3 easy steps

1.

2.


3.

To program the CD from the Unit
1. Press PROGRAM on the CA-S300.
2. Press ⏮ or ⏭ to locate the track you want to start with.
3. Press PROGRAM to store the selected track.
4. Repeat steps 2 and 3 until you have entered all the tracks you want to program.
5. Press ▷/❚❚ and the Unit will begin playing the tracks in the order you programmed them.

To program the order of CD tracks using the Remote
1. Press PROGRAM on the CA-S300.
2. Press CD 10 KEY on the Remote.
3. Press the number of the first track you want to hear, then the number of the second track, and so on until you have entered all the track numbers you want to play.
   - ❑ Refer to the section "How to use the Remote Control" on page 20 if you have questions about how to enter numbers above 10.
   - ❑ The unit will only display up to 15 tracks.
   - ❑ Your program can include up to 32 tracks, and you can repeat tracks if you wish.
4. Press ▶ to start the program—the first track you programmed will start to play, followed by the next one you entered, until all the selected tracks are played.

To stop the CD during programmed play, press ■ on the Remote or ■/CLEAR on the CA-S300.

To cancel the program, press ■/CLEAR on the CA-S300 while the CD is not playing.

Programming Hints

A few hints to make programming easier
- ❑ To add a track to your program, enter the track numbers with the 10 key pad. Any tracks you add will appear at the end of the current program.
- ❑ If you want to change the entire program, press ■/CLEAR on the CA-S300 while the CD is off, and then you can start over.
- ❑ To check the order of the tracks in your program in STOP mode, press ⏮ or ⏭ on the Remote to display the order of the tracks. Each time you press ⏭ the next selection in your program is displayed. (Press ⏮ for the previous selections.)

Repeating a Selection or the Entire Disc

Repeat a selection or the whole CD

You can have either the program or the individual selection currently playing repeat as many times as you like by pressing REPEAT.
Each time you press REPEAT, it cycles from function-off, which turns "REPEAT" out on the display, to "REPEAT" which will repeat all tracks in order or according to the program you have set, and then to "REPEAT 1" which will repeat the currently played track.

To cancel repeat mode, press REPEAT until the "REPEAT" or "REPEAT 1" are not displayed any more.

Listening to a Tape

Listen to a tape: How to use your tape deck

The tape deck allows you to play, record and dub audio tapes.
- ❑ Most tapes are now recorded with the Dolby NR system, so first check which type of the Dolby NR system is used on the tape. Only the Dolby B NR is incorporated into the CA-S300. However, tapes other than the Dolby B type is also available for playing.
- ❑ With Automatic Tape Type Detection, you can listen to type I, II, or IV tapes without changing any settings.
- ❑ To record or dub, see Recording on page 13.

COMPU PLAY

Playback Procedure

One Touch Play

By pressing either ▷ or ◁ on either deck A or B (▶ or ◀ on the Remote), the power will come on, and if a tape is in the deck, it will start to play. If no tape is loaded, the Unit will come on and wait for further instructions.

Regular Play

When the power is already on, you can use this basic procedure:
1. Press EJECT of the deck you want to use.
2. When the cassette carrier opens, put the cassette in, with the exposed part of the tape down toward the base of the CA-S300.
   - ❑ If the cassette carrier does not open, turn the Unit off, then back on again and press EJECT.
3. Close the carrier gently.
4. Press ▷ to play the front side, or ◁ to play the reverse side. The arrow indicator on the pressed button starts blinking and tape play starts.

To stop playing, press ■.

To remove the tape, press EJECT.

Fast Left and Fast Right

- ☐ While the tape is stopped, press ◀◀ and the tape will wind rapidly onto the left side of the cassette without playing.
- ☐ While the tape is stopped, press ▶▶ and the tape will wind rapidly onto the right side of the cassette without playing.

Finding the place you want: Music Scan

Music Scan

To find the beginning of a music track during play, use the Music Scan function. Music Scan searches for blank portions that usually separate tracks, then plays the next song.

- ☐ If you are recording on deck B or put deck B in recording pause mode.

☞ Music Scan will not work on deck A.

Scan Back

To find the beginning of the current song

Press ◀◀ or ▶▶ during play.

- ☐ Make sure that you press ◀◀ or ▶▶ in the opposite direction to tape play. Searching stops automatically at the beginning of the current song, and the current song starts automatically.

Scan Forward

To find the beginning of the next song

Press ◀◀ or ▶▶ during play.

- ☐ Make sure that you press ◀◀ or ▶▶ in the same direction to tape play. Searching stops automatically at the beginning of the next song, and the next song starts automatically.

☞ The Music Scan works by detecting a 4-second blank at the beginning of each selection. So it won't work well if your tape has:

- No blank at the beginning of a track.
- Noise (often caused by much use or poor quality dubbing) which fills the blank with noise.
- Long very soft passages or pauses in a selection. The scan will detect these instead of the 4-second long blanks. If this happens, just go ahead and scan again until you reach the selection you want.

More Useful Things to Know:

•Reverse Mode

•Continuous Play

•Dolby

Other Useful Features Using the Tape Deck

- ☐ Use **Reverse Mode** to make the tape automatically reverse at the end of a side and start playing the other side. Press REVERSE MODE to change from Reverse Mode on (the indicator is lit) to Reverse Mode off, or from off, to on.
- ☐ **Continuous Play:** When a tape finishes playing, the Unit always checks to see if a tape is in the other deck. If one is there, it automatically starts playing it while rewinding the first tape. This Continuous Play happens regardless of which deck starts first.
  - With the Reverse Mode on, the other tape will start playing when both sides of the first tape have been played. As long as the REVERSE MODE indicator is lit, the tapes will continue to play in the above sequence.
  - With the Reverse Mode off, the tape will play to the end of the current side, switch to the other deck and start playing a tape there while rewinding the first tape. Then when one side of the tape in the other deck is over, the first deck starts playing the same side again. The tapes will continue to play in the above sequence.
- ☐ Press DOLBY B NR to switch **Dolby Noise Reduction** on (the indicator lights up) or off (the indicator goes off). If a tape is recorded with Dolby B NR, playing it back with the Dolby NR on will reduce tape noise and improve the clarity of the sound.

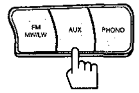
Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Listening to an Optional VCR or Turntable

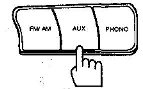
Advantages in connecting a VCR or turntable

By playing the sound from a VCR or turntable through the CA-S300, you can often dramatically improve the quality, and gain control over how the music or program sounds. Once the connected equipment is playing through the CA-S300, you can apply the sound effects, make recordings, or listen with the headphones.

- ☐ First make sure that the connection between optional equipment and the CA-S300 has been done correctly. (See page 6).



for U.K. model



for Australian model

1. Make a connection between the VCR or Turntable as shown on page 6.
2. Press AUX or PHONO on either the Remote or the Unit.
   "AUX" or "PHONO" lights up on the display.
3. Start playing the connected equipment.
   The sound from the connected source is now played through the CA-S300.
4. Adjust the volume level.

To cancel the AUX/PHONO setting

Change the source by starting any one of the CA-S300's built-in sound sources, such as the radio or CD player.

Recording

What can you record?
•Tapes
•Radio
•CDs
•Microphone
•Connected source

Recording onto cassette tape from any of the sound sources is easy and the CA-S300 does most of the work. Just have a tape in deck B, have the source ready, make one or two settings, and you're ready to record.

For each source the procedure is a little different and now we'll explain just what to do for each one. If you forget, just go back to the section which has the specific procedures you need. But first, here are a few things to make your recordings better.

Things to Know before You Start Recording:

Copyright

- ☐ **It shloud be noted that it may be unlawful to re-record pre-recorded tapes,records,or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic workembodied therein.**

Reduce hiss—Dolby NR

- ☐ Press DOLBY B NR — the indicator lights up — to reduce tape hiss, **except** when dubbing tapes since Dolby NR is inactive in dubbing mode regardless of the setting of DOLBY B NR. The dubbed tape automatically contains the same processing as the source tape.

Recording level

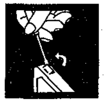
- ☐ The recording level, which is the volume at which the new tape is being made, is automatically set correctly, so it is not affected by the VOLUME control on the CA-S300. Thus, you can adjust the sound you are actually listening to without changing the recording.

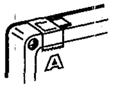
Erasure protection

- ☐ Two small tabs on the back, one for side A and one for side B, can be removed to prevent accidental erasure or re-recording. To record on a cassette with the tabs removed, you must cover the holes with adhesive tape first. However, when a Type II tape is used, only cover part of the hole as shown, since the other part of the hole is used to detect the tape type.

Recording sound mode

- ☐ When recording, you can select the sound effects with the preset sound effect buttons to condition the music as it is recorded. But when recording using Auto Edit or CD Direct, once recording has started, these settings cannot be changed. When recording from tape deck A to deck B, the sound effects cannot be used, because the signal doesn't go through the amplifier first. This method gives you the highest quality dubbed tapes.





(Type II tape)

Usable tape type

- ☐ Type I and type II tapes can be used for recording. While type IV tapes can be played, type IV tapes cannot be used for recording on the CA-S300.

CAUTION: If recordings you make have excessive noise or static, the Unit may be too close to a TV which was on during the recording. Either turn off the TV or increase the distance between the TV and the CA-S300. The use of C-120 (C-120 minutes turn around) or thinner tape is not recommended, since characteristic deterioration may occur and these tape easily jam in the pinch and the capstan.

Standard Recording

Standard recording: Any source to tape

This is the basic method for recording any source. The CA-S300 also has special ways for recording CD to tape, and tape to tape, which save you time and effort, as well as give you some special effects. However, when you need to add a selection to a tape you have made, or are combining selections from several sources on one tape, use the method we describe here; just substitute the source you want, such as a tape in deck A, or CD, or radio in this procedure. You can also record from the microphone or an auxiliary source with this procedure.

Source to tape: Step by step

To Record Any Sound Source to Tape

Follow these steps to record from any sound source onto a tape in deck B.

1. Insert a blank or erasable tape into deck B.
2. Press REC PAUSE.
   The REC PAUSE indicator lights up.
3. Press REVERSE MODE if you want to record on both sides of the tape.
   The REVERSE MODE indicator lights up.
4. Prepare the sound source, for example, tuning in a radio station, loading a CD, turning on a connected VCR or optional equipment for recording.
5. Press either ▷ to record on side A, or ◁ to record on side B of the tape, on deck B.

CD to Tape Recording

CD to tape recording: Introduction

There are three ways to record from CD to tape:

☐ **Standard Recording** described on the previous page.

☐ **CD Direct Recording** — Everything on the CD goes onto the tape in the order it is on the CD, or according to an order you have set in a program.

☐ **Auto Edit Recording** — Your CA-S300 figures out which selections to put on which side of the tape, so a selection isn't cut off before it's finished when the tape runs out.

CD Direct Recording

CD Direct Recording: Introduction

1. Insert a blank or erasable cassette into deck B.
   ☐ If you want to record on both sides of the tape, press REVERSE MODE on the tape deck so that the REVERSE MODE indicator lights up.
2. Load a CD into the tray and press ▲ to close the tray.
3. Set the sound mode if you want, since the sound mode cannot be changed once recording starts.
4. Press CD REC START.
   ☐ At the end of the tape, the CA-S300 automatically goes back to the beginning of the last selection and re-records it, this time gently fading out at the end.
   If you selected the REVERSE MODE, side B starts with the last selection on side A. (A 10-second blank is also created at the beginning of side B.)
   When the tape is finished, the Unit shuts off the CD and the tape deck.

To stop any time during the recording process
Press ■ on deck B.

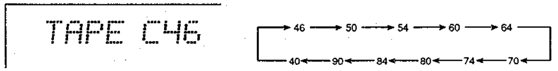
Auto Edit Recording

Auto Edit Recording: Introduction

Using Auto Edit, you can record the CD tracks to fit the tape, so a selection isn't cut off. Auto Edit is one of the best ways to copy all of a CD onto a tape.
Auto Edit programs the CD tracks in the numerical order. To prevent the end of the last track on side A from being cut off, the last track on side A is selected to fit on the remaining tape length.

Auto Edit Recording: Step by step

1. Insert a blank or erasable cassette into deck B.
   ☐ If you want to record on both sides of the tape, press REVERSE MODE on the tape deck so that the REVERSE MODE indicator lights up.
2. Load a CD into the tray and press ▲ to close the tray.
3. Set the sound mode if you want, since the sound mode cannot be changed once recording starts.
4. Press AUTO EDIT on the CA-S300.
   "EDIT" appears on the display and then the minimum standard tape length to use for this CD appears.
   ☐ You can select a different length of tape, depending on the actual size of the tape you are using, from eleven possibilities programmed into the CA-S300: 40, 46, 50, 54, 60, 64, 70, 74 , 80 , 84, 90. Cycle through these choices using |◀◀ or ▶▶| (|◀◀ or ▶▶| on the Remote) until you find the length closest to your tape's actual length.
   - If you pick a tape length shorter than the total playing time of the CD, the last tracks on both sides of the tape will be faded out as the tape ends.



5. Press SIDE A/B.
   The display shows which tracks will go on side A and which on side B. Each time you press SIDE A/B, the display switches between A and B.
6. PRESS CD REC START.
   The Unit will automatically rewind the tape to the beginning of side A, create a 10 second blank, turn on the CD and start recording.

To stop any time during the recording process
Press ■ on deck B.

Tape to Tape Recording (Dubbing)

Tape to tape dubbing: Introduction

Recording from one tape to another is called dubbing.
You can dub for the best possible quality.

☐ To dub both sides of a tape, start from side A for both deck A and deck B, and press REVERSE MODE so that the REVERSE MODE indicator lights up.

☐ It is preferable that the type of tape Type I (Normal) or Type II (CrO_2) you record *from* be the same as the type you record *onto.*

Dubbing

Dubbing: Step by step

1. Insert a source cassette you want to copy *from* into deck A for playback.
2. Insert a blank or erasable cassette you want to copy *onto* into deck B for recording.
3. Press REC PAUSE on deck B.
4. Press ▷ (or ◁) on deck B.
   Recording starts.
   ☐ To advance the leader tape, start recording first and wait about 10 seconds before starting the deck A.
5. Press ▷ (or ◁) on deck A.
   Deck A starts playing.

To stop any time during the dubbing process
Press ■ on both deck A and deck B.

How to use the DUBBING button

1. Insert a source cassette you want to copy *from* into deck A for playback.
2. Insert a blank or erasable cassette you want to copy *onto* into deck B for recording.
3. Press DUBBING.
   Deck A and deck B will start simultaneously.
4. To stop:
   - Press ■ on deck A. Recording on deck B will be paused by Rec Mute.
   - Press ■ on deck B. Deck A and deck B will stop simultaneously.

☞ Dolby NR is inactive in dubbing mode regardless of the setting of DOLBY B NR.
The dubbed tape automatically contains the same processing as the source tape.
☞ You cannot dub using the sound modes such as D.CLUB, HALL, STADIUM, etc.

How to Set the Clock and Use the Timers

Four Timers:
•REC
•DAILY
•SLEEP
•AUTO POWER OFF

The timers let you control recording and playing functions automatically. With the CA-S300 they are particularly easy to set and use. Four types of timers are available:

☐ **REC (Recording) Timer**—unattended recording of radio broadcasts. You can set the starting time and recording duration.
☐ **DAILY Timer**—Wake up to music from any source.
☐ **SLEEP Timer**—Fall asleep and have your CA-S300 turn off automatically after a certain length of time.
☐ **AUTO POWER OFF**—Automatically turns off the Unit when the CD or tape finishes.

Clock Setting

IMPORTANT!
Set your clock!

The timers depend on the clock: if the clock is right, the timers will work like you expect, but if the time is incorrect on the clock then the timers will also be incorrect.

Notice: The clock must be set, or the timers cannot be set!

1.

2.

3.

So, let's set the clock first.

1. Press CLOCK ADJ.
2. Set the hour by pressing HOUR.
   Each time you press it, the hour advances by one. Hold the button down, and the clock will advance continuously as long as HOUR is held down.
3. Set the minutes by pressing MINUTE.
   Each time you press MINUTE the minutes advance by one. Hold the button down, and the minutes advance in ten minute increments as long as MINUTE is held down.
4. Press CLOCK ADJ. again and the clock is set and starts from zero seconds.

☞ If there is a power failure, the clock loses its setting, the display shows "0:00", and it must be reset.

Setting the REC (Recording) Timer

Recording when you're not there

With the Recording Timer you can make a tape of a radio broadcast automatically whether or not you are there. For the timer to work correctly, you need to make sure of the following in addition to setting the time for the radio and tape recorder to come on:

☐ You can set the Recording Timer whether the Unit is on or off.
☐ The tape you want to record onto must be in deck B.
☐ The radio station whose program you want to tape must be the last one played before timer comes on.

Follow this procedure to set the Recording Timer

1. Press REC TIMER so that "REC TIMER" blinks on the display. As long as it is blinking, you can continue with the setting process.
   ☐ If you wait too long, and it stops before you are done, just press REC TIMER twice and start over.
2. Set the time you want the radio to come on and the tape in deck B to start recording.
   ☐ Press HOUR to set the hour and MINUTE to set the minute.
3. Press SOURCE/REC TIME to set the length of time for the recording.
   ☐ Each time you press this button, the duration increases by one minute. If you hold the button down, it will advance in ten minute increments up to 120 minutes, which is the maximum time you can set.
   ☐ At the end of the set length of time the CA-S300 will shut off.
   - If you set no time, but leave the display showing – –, the CA-S300 will not shut off, but keep playing until you shut it off.
4. Press REC TIMER again, or wait eight seconds. "TIMER OK" appears for a while, then "REC TIMER" lights up on the display.
   The Unit will memorize the setting. When the set time comes, the CA-S300 turns on and records the last station tuned when the Unit was last turned off.

☞ If you press any button while the Recording Timer is being activated the function will be deactivated, but recording will not stop.

Before the set time comes

☐ Check that tape direction is correct. This is important especially when Reverse Mode is off.
☐ Set Reverse Mode on if you want to record on both sides of the tape.
☐ Select the sound mode if you want to record with one of the sound mode (D.CLUB, HALL, STADIUM, etc.).
☐ Set the VOLUME control to MIN so that no sound comes out from speakers when the recording timer switches on the CA-S300. This is important especially if you will be out during the recording.

To change the Recording Timer setting
Press REC TIMER twice ("REC TIMER" reappears) and make any changes you want.

To cancel the Recording Timer setting
Press REC TIMER button again so that "REC TIMER" goes off on the display.

Setting the DAILY Timer

Wake up to music with the DAILY Timer

DAILY TIMER

With this timer you can wake up to music from a CD, tape or your favorite radio program.
☐ You can set the DAILY Timer whether the Unit is on or off.

Follow this procedure to set the DAILY Timer

1. Press DAILY TIMER so that "DAILY TIMER" blinks on the display.
2. Set the time you want the Unit to turn on.
   ☐ Press HOUR to set the hour and MINUTE to set the minute.
3. Press SOURCE/REC TIME to set the source.
   ☐ Each time you press this button, the display shows one of the four possible sources: CD, TAPE, FM or AM (MW/LW). Leave the one you want lit but select within 15 seconds.
   - If you select AM (MW/LW) or FM as the source, the last played station is the one which comes on at the set time.
4. Press DAILY TIMER again, or wait eight seconds. "TIMER OK" appears for a while, then "DAILY TIMER" lights up on the display.
   The Unit will memorize the setting.
   When the set time comes, the CA-S300 turns on ("DAILY 60" appears on the display), plays the source you have for 60 minutes, and then the Unit turns off.

☞ If you press any button while the DAILY Timer is being activated, the Unit will not turn off automatically after 60 minutes.

Before turning off the Unit

☐ If the source is tape:
- Check that the tape transport direction is correct. This is important especially when Reverse Mode is off.
- Deck B has priority, so if tapes are in both deck, the tape in deck B plays first.
- Set Reverse Mode on if you want play both sides of the tape.

☐ Select the sound mode if you want to listen using a sound mode (D.CLUB, HALL, STADIUM, etc.).
☐ Set the volume to an appropriate level.

To change the DAILY Timer setting
Press DAILY TIMER twice ("DAILY" reappears) and make any changes you want.

To cancel the DAILY Timer setting
Press DAILY TIMER button again so that "DAILY TIMER" goes off on the display.

Sleep Timer: turns the Unit off automatically after a set time

Setting the SLEEP Timer

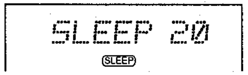
Use the SLEEP timer on the remote to turn the Unit off after a certain number of minutes when it is playing. Using this timer, you can fall asleep to music.

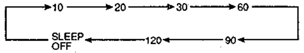
❑ You can only set the SLEEP Timer when the CA-S300 is on and a source is playing.

Follow this procedure to set the SLEEP Timer

With the CA-S300 on and a source playing, press SLEEP on the remote. "SLEEP" starts blinking on the display.

❑ Each time you press SLEEP while "SLEEP" is blinking, it changes the number of minutes shown on the display in this sequence:





When the number of minutes you want shows on the display, just wait 8 seconds until "TIMER OK" appears and "SLEEP" stops blinking, but remains lit.
The Unit will now turn off after the number of minutes you set.

To change the SLEEP Timer setting

Press SLEEP until the number of minutes you want appears on the display.

To cancel the SLEEP Timer setting

Press SLEEP until "SLEEP" goes off on the display.
Turning off the Unit also cancels the SLEEP Timer.

Timer Priority

Since each timer can be set independently, you may have wondered what happens if the settings overlap: for instance, suppose you set the Recording Timer to record a broadcast from 1 am to 1:30 am, and then you set the sleep timer at midnight to run until 2 am. Will you still get your radio program recorded? Here are the priorities for each timer:

❑ The Recording Timer always has priority. This means that:
  - If another timer is set to come on during a time the Recording Timer is operating, the other timer just won't come on at all, so you will always get the entire program on tape.
  - If the Recording Timer is set to come on while another timer is being activated, the other timer will shut off 10 seconds before the Recording Timer is set to turn on, and the Recording Timer will then take over.

❑ The SLEEP Timer has priority over the DAILY Timer. This is important because if you set the SLEEP Timer to start before and then end after the DAILY Timer would start, the DAILY Timer doesn't come on. So if you want your alarm to go off as scheduled, be sure the SLEEP Timer shuts off before the DAILY Timer is to turn on the Unit.

Auto Power Off: turns off your CA-S300 automatically

AUTO POWER OFF

Turning Off the CA-S300 Automatically

When playing either a tape or a CD, Auto Power Off will shut the Unit off when the tape or CD comes to the end. Although Auto Power Off is very useful for shutting off the CA-S300 at night, you can also use it if you think you might forget to turn the Unit off when leaving the house or your room at other times of the day.

To use Auto Power Off:

Press AUTO POWER OFF so that "AUTO POWER OFF" lights up on the display.

To cancel Auto Power Off:

Press AUTO POWER OFF again so that "AUTO POWER OFF" disappears on the display.

Important information on using Auto Power Off

❑ If you press AUTO POWER OFF while the CD is playing in repeat mode ("REPEAT" or "REPEAT 1" lights on the display), repeat mode will be cancelled and Auto Power Off will be able to work even though "REPEAT" or "REPEAT 1" remains lit on the display.

> ☞If you press REPEAT to set the CD player in repeat mode while Auto Power Off is on ("AUTO POWER OFF" lights on the display), Auto Power Off will be cancelled even though "AUTO POWER OFF" remains lit on the display, and REPEAT 1 will not work.

❑ If you press AUTO POWER OFF while the tape is playing:
  - If Reverse Mode is off (the REVERSE MODE indicator is not lit), the Unit turns off when the current playing side finishes.
  - If Reverse Mode is on (the REVERSE MODE indicator lights up), the Unit plays the side currently playing, reverses and plays the other side, then shuts off.

Singing Along

What is Vocal Masking?

> Have you ever wished you could sing with a real band, in place of the lead singer? The VOCAL MASKING (voice canceller) button lets you use regular tapes, CDs or records as sources of sing-along music. When you press VOCAL MASKING, the lead vocal is reduced, and you can replace it by singing into the microphone as the music plays. No microphone is supplied with the CA-S300, so you can select your own from the many kinds available. Remember: the sound quality is greatly affected by the quality of the microphone.

Singing-Along Procedure

How to Sing Along with Vocal Masking:

1. Turn the MIC LEVEL control all the way counter-clockwise to the MIN position.
2. Attach the microphone (not supplied) by plugging it into the MIC jack.
3. Start the source—CD, Tape, connected VCR, Turntable.
4. Press VOCAL MASKING—the indicator will light up.
5. Now adjust the volume of the source with the main VOLUME control, and the volume of your voice with the MIC LEVEL control as you sing into the microphone.

Important information about Vocal Masking

❑ Because the radio signal is not as reliable as signals coming from a tape or CD, you may not always get satisfactory results using the radio as a source for Vocal Masking.

❑ Some tapes and CDs are better sources for singing along than others.
  - Mono sources are not suitable for Vocal Masking.
  - On sources with duets, strong echoes, a chorus, or with only a few instruments, the singer's voice may not be completely reduced.
  - Poorly dubbed tapes may not work well for Vocal Masking.

Recording from the Microphone

> You cannot use the microphone for two kinds of recording.
> ❑ You cannot record your singing-along when the main source is a tape in deck A.
> ❑ Microphone mixing—Sound going into the microphone is mixed with sound sent to the tape in deck B from some other source, such as the CD or radio.
> ❑ Regular recording—Only sound picked up by the microphone is recorded.

Recording a Singing- Along Session

Recording Your Singing-Along

You can record a singing-along session under certain conditions.

❑ You cannot record your singing-along when the main source is a tape in deck A.

Here's the procedure for recording your singing-along:

1. Put the cassette you want to record onto in deck B.
2. Press REC PAUSE—see Recording, page 13 if you need more information about tape recording.
3. Follow the above procedure "How to Sing Along with Vocal Masking."
4. Press Play Forward ▷ (or Play Reverse ◁) on deck B, and deck B will start recording the source together with your voice in place of the lead vocal.

Two ways of recording with the microphone

Microphone Mixing

1. Insert a blank or erasable cassette you want to record onto in deck B.
2. Connect the microphone to the MIC jack.
3. Press REC PAUSE so that the REC PAUSE indicator lights up.
4. Start the source (radio, CD, VCR or turntable) and set the VOLUME control.
5. Adjust the microphone volume with the MIC LEVEL control.
6. Press ▷ (or ◁) on deck B, and speak or sing into the microphone.
   Both sound from the microphone and from the playing source is recorded.

Regular Microphone Recording

1. Insert a blank or erasable cassette you want to record onto in deck B.
2. Connect the microphone to the MIC jack.
3. Press REC PAUSE so that the REC PAUSE indicator lights up.
4. Adjust the volume of the microphone with the MIC LEVEL control.
5. Press ▷ (or ◁) on deck B.
   Whatever sounds the microphone picks up are recorded.

IMPORTANT!

> ☞To prevent howling and squealing when using the microphone, adjust the MIC LEVEL control and the VOLUME control, and try not to point the microphone at the speakers.
> ☞When you are not using the microphone, keep the MIC LEVEL control set to MIN. It is best to disconnect the microphone when you will not be using it.

How to Use the Remote Control

The Remote Control makes it easy to control many of the functions of the CA-S300 from a distance of up to 6 m away. You need to point the remote sensor at the CA-S300 front panel.

- ☐ Most of the buttons on the Remote Control do just what the ones on the CA-S300 do.
- ☐ A few functions are available only by using the Remote Control, and those are described below.
- ☐ The buttons whose names or marks are printed in blue can be used for the One Touch Operation.

Using the 10 Key Pad

The 10 key pad is used to specify a CD track or the number you have assigned to a preset radio station. To enter a number using the 10 key pad follow these steps:

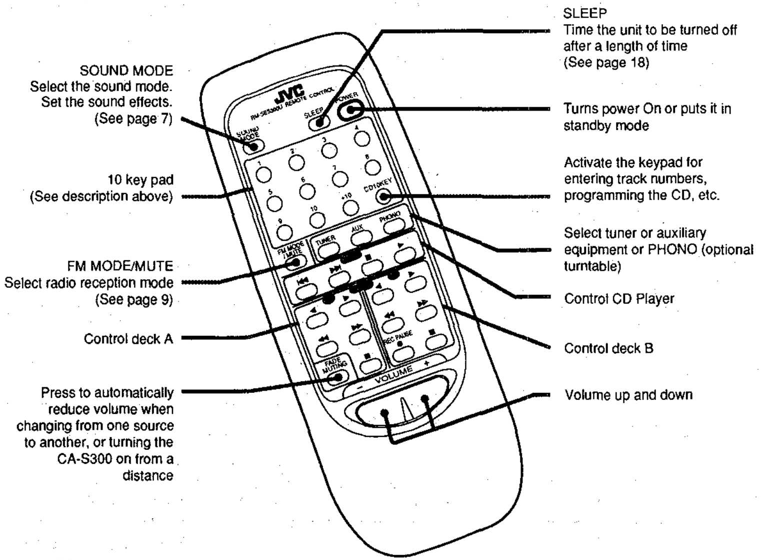
- ☐ Before using the 10 key pad, make sure which the 10 key pad functions for, the CD player or tuner.
  This is depends on which button on the Remote you have pressed before the 10 key pad. For example, if you press TUNER before 10 key pad, it can select a preset station.
- ☐ For numbers between 1 and 10, just press the button with the number you want.
- ☐ For numbers from 11 to 20, first press the +10 key, then the single digit numbers you want on the key pad — to get 15, first press +10, then 5. For 20 press +10 and 10.
- ☐ For numbers from 21 to 30, press the +10 key twice; then press the single digit numbers on the key pad — to get 25, press +10 +10 and 5. For 30, press +10 +10 and 10.
- ☐ For numbers from 31 to 40, follow the same procedure, only press the +10 key three times, then press the single digit numbers on the key pad — to get 32, press +10 +10 +10 and 2.

Using the FM MODE/MUTE Key Pad

When an FM stereo broadcast is difficult to receive or noisy. Functions/steps are available on page 9.

Using the SLEEP Key Pad

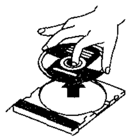
The SLEEP function will turn the unit off after a certain time, while you are asleep. With the unit on, press SLEEP. SLEEP will blink. Select the appropriate minutes — 10, 20, 30, 60, 90, 120 — to turn the unit off.


SOUND MODE
Select the sound mode.
Set the sound effects.
(See page 7)
10 key pad
(See description above)
FM MODE/MUTE
Select radio reception mode
(See page 9)
Control deck A
Press to automatically reduce volume when changing from one source to another, or turning the CA-S300 on from a distance
SLEEP
Time the unit to be turned off after a length of time
(See page 18)
Turns power On or puts it in standby mode
Activate the keypad for entering track numbers, programming the CD, etc.
Select tuner or auxiliary equipment or PHONO (optional turntable)
Control CD Player
Control deck B
Volume up and down
JVC
REMOTE CONTROL
SLEEP
POWER
CD10KEY
+10
TUNER
AUX
PHONO
FM MODE MUTE
FADE MUTING
VOLUME

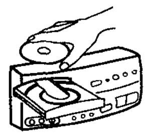
Care and Maintenance—General Notes

Compact Discs

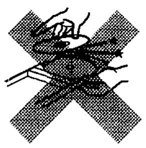
Handle your compact discs, cassette tapes, and tape deck carefully, and they will last a long time.



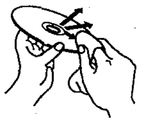
- Remove the CD from the case by holding it at the edges while pressing the center hole lightly.
- Do not touch the shiny surface of the CD, or bend the CD.



- Place the CD into the open tray with the label facing up.



- Put the CD back in its case after use to prevent warping.
- Be careful not to scratch the surface of the CD when placing it back in the case.
- Avoid exposure to direct sunlight, temperature extremes, and moisture.



- A dirty CD may not play correctly. If a CD does become dirty, wipe it with a soft cloth in a straight line from center to edge.

CAUTION: Do not use any solvent (for example, conventional record cleaner, spray, thinner, benzine, etc.) to clean a CD.

On Moisture Condensation

Moisture may condense on the lens inside the unit in the following cases:

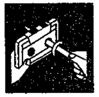
- After starting the heating in the room.
- In a damp room.
- If the unit is brought directly from a cold to a warm place.

Should this occur, the unit may malfunction. In this case, leave the unit turned on for a few hours until the moisture evaporates, unplug the AC power cord, and then plug it in again.

In general, you will have the best performance by keeping your tapes, CDs, and the mechanism clean.

- Store tapes and CDs in their cases, and keep them in cabinets or on shelves.
- Keep the tape deck tape carriers and the CD tray closed when not in use.

Cassette Tapes



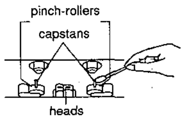
- If the tape is loose in its cassette, take up the slack by inserting a pencil in one of the reels and rotating.
- If the tape is loose, it may get stretched, cut, or caught in the cassette.

- Do not touch the tape surface.

- Do not store the tape:
  - In dusty places
  - In direct sunlight or heat
  - In moist areas
  - On a TV or speaker
  - Near a magnet

Tape Deck

- If the heads, capstans, and pinch-rollers of the tape deck become dirty, the following will occur:
  - Impaired sound quality
  - Discontinuous sound
  - Fading
  - Incomplete erasure
  - Difficulty recording
- Clean the heads, capstans, and pinch-rollers using a cotton swab moistened with alcohol.


pinch-rollers
capstans
heads

- If the heads become magnetized, it will produce noise or lose high frequencies.
- To demagnetize the heads, turn off the Unit, and use a head demagnetizer (available at electronics and record shops).

Troubleshooting

- If you are having a problem with your CA-S300, check this list for a possible solution before calling for service.
- If you cannot solve the problem from the hints given here, or the Unit has been physically damaged, call a qualified person, such as your dealer, for service.

SYMPTOM	POSSIBLE CAUSE	ACTION
No sound is heard.	Connections are incorrect, or loose.	Check all connections and make corrections. (See pages 5 and 6.)
Impossible to record.	Cassette record protect tabs are removed.	Cover holes on back edge of cassette with tape.
Hard to listen to broadcasts because of noise.	The antenna is disconnected.	Re-connect the antenna securely.
	The loop antenna is too close to the system.	Change the position and direction of the loop antenna.
	The feeder/wire antenna is not properly extended and positioned.	Extend feeder/wire antenna at the best reception position.
The CD sound is discontinuous.	The CD is scratched or dirty.	Clean or replace the CD.
Unable to operate the Remote.	The path between the Remote and the sensor on the Unit is blocked.	Remove the obstruction.
	The batteries are discharged.	Replace the batteries.
The CD tray cannot be operated.	The main AC power cord is not plugged in.	Plug in the AC power plug.
The CD does not play.	The CD is upside down.	Put the CD in with the label side up.
Operations are disabled.	The built-in microprocessor may malfunction due to external electrical interference.	Unplug the system then plug it back in.
The cassette carrier cannot be opened.	During tape playing, the power cord is unplugged.	Plug in the power cord and press eject.

Specifications

Amplifier

Output Power (IEC 268-3/DIN)
30 watts per channel, min. RMS, both channels driven, into 6 ohms at 1 kHz with no more than 0.9% total harmonic distortion.

Input Sensitivity/Impedance (1 kHz)	
PHONO	3 mV/50 kohms
AUX	300 mV/50 kohms
MIC	3.5 mV/10 kohms

Speaker terminals	
Main speakers	6 - 16 ohms

Tape deck

Frequency response	
Type I (Normal):	30 – 15,000 Hz
Type II (CrO_2):	30 – 16,000 Hz
Wow and Flutter	0.09% (WRMS) (0.2% DIN)

Tuner

FM Tuner

Tuning Range	87.5 – 108.0 MHz
Usable Sensitivity	0.95 µV/75 ohms (10.8 dBf)
Signal-to-Noise Ratio (IHF-A weighted)	MONO (at 85 dBf) 80 dB STEREO (at 85 dBf) 73 dB

AM Tuner

MW- Tuning Range	522 – 1,629 kHz
LW- Tuning Range	144 – 288 kHz (only for U.K.)

Compact Disc Player

Dynamic Range (1 kHz)	90 dB
Signal-to-Noise Ratio	95 dB
Wow and Flutter	Unmeasurable

General

Power Requirements	
U.K.	AC 230 V ∿, 50 Hz
Australia	AC 240 V ∿, 50 Hz
Power Consumption	
U.K.	130 Watts
Australia	125 Watts 13 Watts (at standby mode)
Dimensions (Approx.)	245 x 270 x 302 mm (W/H/D) ($9^{3}/_{4}$ x $10^{3}/_{4}$ x $11^{15}/_{16}$ in.)
Mass (Approx.)	6.8 kg (15 lbs)

Supplied Accessories

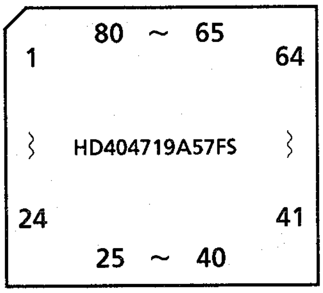
FM feeder antenna (1)
AM (MW/LW) loop antenna (1)
Remote control (RM-SES300U) (1)
Batteries R03(UM-4)/AAA(24F) (2)
Antenna adaptor (1)

Design and specifications subject to change without notice.

Description of Major ICs

■ HD404719A57FS (IC901) : Deck controller

1. Terminal Layout

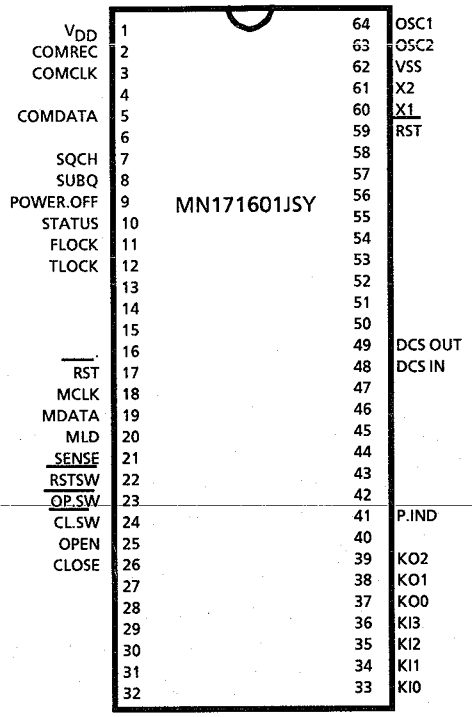


2. Terminal Functions

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	IN12	I	Leaf switch voltage	41	BFR	O	Reel motor control signal (forward)
2	IN11	I	Leaf switch voltage	42	BRR	O	Reel motor control signal (reverse)
3	PRT	I	Input from protector circuit	43	BRC	O	Cam motor control signal (counterclockwise)
4	AD GND	---	Ground for A/D converter	44	BFC	O	Cam motor control signal (clockwise)
5	RESET	I	Reset in	45	AFR	O	Reel motor control signal (forward)
6	OSC1	---	Oscillasion terminal	46	ARR	O	Reel motor control signal (reverse)
7	OSC2	---	Oscillasion terminal	47	ARC	O	Cam motor control signal (counterclockwise)
8	LG	---	GND	48	AFC	O	Cam motor control signal (clockwise)
9	—	---	GND	49	—	---	Connected to GND
10	—	---	Not use	50	ACS2	I	Input of mechanism information (deck A)
11	$\overline{\mathrm{TEST}}$	---	Connected to +5V	51	ACS1	I	Input of mechanism information (deck A)
12	VCC	---	+5V	52	ACS0	I	Input of mechanism information (deck A)
13	CLASSIC	I	CLASSIC Indication signal	53	BCS2	I	Input of mechanism information (deck B)
14	ECHO1	O	Drive signal for the capstan motor(A)	54	BCS1	I	Input of mechanism information (deck B)
15	ECHO2	O	Fade recording control	55	BCS0	I	Input of mechanism information (deck B)
16	POPS	O	POPS Indication signal	56	FADE	O	FADE recording control
17	D.CLUB	O	D.CLUB Indication signal	57	JOG 2	O	JOG palse to input 2
18	CAP	O	Drive signal for the capstan motor (B)	58	JOG 1	O	JOG palse to input 1
19	HALL	O	HALL Indication signal	59	DCS IN	I	Compulink signal input
20	C.BASS	O	C.BASS Indication signal	60	DCS OUT	O	Compulink signal output
21	APLS	I	Input of reel pulse (Deck A)	61	RMIN	I	Input from remote signal detector
22	BPLS	I	Input of reel pulse (Deck B)	62	P.IND	O	P.IND Indication signal
23	$\overline{\mathrm{RMT}}$	O	Recording mute control	63	SPDATA	O	Data output to IC803
24	NR OUT	O	Noise reduction control	64	BIAS	O	Bias circuit control (ON/OFF)
25	NR REC	O	Mode conrol of NR (REC/PLAY)	65	LATCH	I	Strove signal from IC402
26	AMC	O	Speed control signal for deck A	66	CLK	O	Clock output to IC403 (Tone selector)
27	BMC	O	Speed control signal for deck B	67	STB	O	Strobe output to IC403 (Tone selector)
28	STADIUM	O	STADIAM Indication signal	68	DATA	O	Data output to IC403 (Tone selector)
29	AIB	O	A/B DECK chenge control signal	69	POWER	O	Power control (Power on/off)
30	MSI	O	Music scan input	70	SPK	O	Speaker relay control
31	PBMT	O	Play back mute	71	VOL DOWN	O	Master volume control
32	ROCK	O	ROCK Indication signal	72	VOL UP	O	Master volume control
33	AFI		A mecha fowerd Indication signal	73	S.MUTE	O	Souce mute output
34	ARI		A mecha reverse Indication signal	74	HP.IN	O	Head phon detection
35	BFI		B mecha fowerd Indication signal	75	AD VCC	---	+5V
36	BRI	O	B mecha reverse Indication signal	76	IN 7	I	AMP switch voltage
37	DOL 1	O	Dolby Indication signal	77	IN 6	I	AMP switch voltage
38	REC 1	O	REC Indication signal	78	IN 5	I	DECK switch voltage
39	REV 1		REV Indication signal	79	IN 4	I	DECK switch voltage
40	SEA OFF		SEA OFF Indication signal	80	IN 3	I	DECK switch voltage

■ MN171601JSY(IC951) : System Controller

1. Terminal Layout


MN171601JSY
VDD 1
COMREC 2
COMCLK 3
4
COMDATA 5
6
SQCH 7
SUBQ 8
POWER.OFF 9
STATUS 10
FLOCK 11
TLOCK 12
13
14
15
16
RST 17
MCLK 18
MDATA 19
MLD 20
SENSE 21
RSTSW 22
OP.SW 23
CL.SW 24
OPEN 25
CLOSE 26
27
28
29
30
31
32
64 OSC1
63 OSC2
62 VSS
61 X2
60 X1
59 RST
58
57
56
55
54
53
52
51
50
49 DCS OUT
48 DCS IN
47
46
45
44
43
42
41 P.IND
40
39 KO2
38 KO1
37 KO0
36 KI3
35 KI2
34 KI1
33 KI0

2. Key Matrix

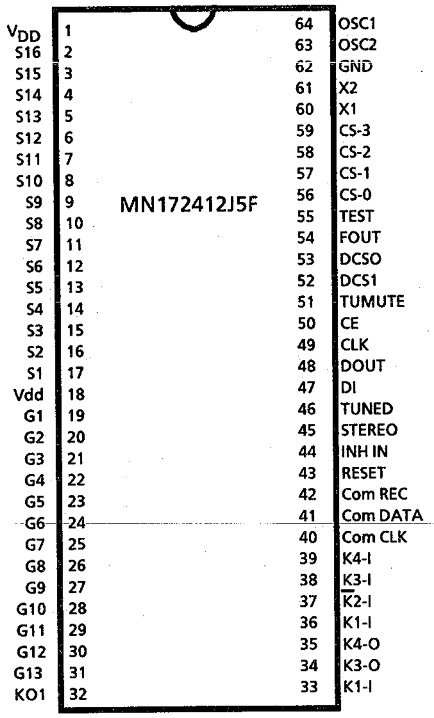
	KEY IN0 (pin2)	KEY IN1 (pin3)	KEY IN2 (pin4)	KEY IN3 (pin5)
KEY OUT 0 (pin6)	REPEAT	OPEN/ CLOSE	CD	STOP/ CLEAR
KEY OUT 1 (pin7)	RANDOM	⏮	A/B	PLAY
KEY OUT 2 (pin8)	PROGRAM	⏭	AUTO EDIT	VIDEO

3. Terminal Description

Pin	symbol	I/O	Function and Operations	Pin	symbol	I/O	Function and Operations
1	VDD	--	Power supply	33	KI0	I	Key matrix input
2	COMREC	O	Request output to IC801	34	KI1	I	Key matrix input
3	COMCLK	I	Request output from IC801	35	KI2	I	Key matrix input
4		--	Connected to GND	36	KI3	I	Key matrix input
5	CODATA	I	DATA output output from IC801	37	KO0	O	Key matrix output
6			Connected to GND	38	KO1	O	Key matrix output
7	SQCK	O	Clock output for Q-resistor	39	KO2	O	Key matrix output
8	SUBQ	I	Input Q-data of subcode	40		--	Connected to GND
9	POWER OFF	O	Power on'L' Power on 'H'	41	P.IND	I	Power indication signal
10	STATUS	I	STATAS signal input	42		--	Connected to GND
11	FLOCK	I	Lock signal for Focus	43		--	Connected to GND
12	TLOCK	I	Lock signal for Tracking	44		--	Connected to GND
13		--	Connected to GND	45		--	Connected to GND
14		--	Connected to GND	46		--	Connected to GND
15		--	Connected to GND	47		--	Connected to GND
16		--	Connected to GND	48	DCS IN	I	DCS signal input
17	RST	O	Reset signal output	49	DCS OUT	O	DCS signal output
18	MCLK	O	µ-com command clock signal output	50		--	Connected to GND
19	MDATA	O	µ-com command data signal output	51		--	Connected to GND
20	MLD	O	µ-com command load signal output	52		--	Connected to GND
21	SENSE	I	Sence signal input	53		--	Connected to GND
22	RSTSW	I	Rest sw on 'L'	54		--	Connected to GND
23	OPSW	I	Tray open 'L'	55		--	Connected to GND
24	CLSW	I	Tray close 'L'	56		--	Connected to GND
25	OPEN	O	Tray open 'H'	57		--	Connected to GND
26	CLOSE	O	Tray close 'H'	58		--	Connected to GND
27		--	Connected to GND	59	RST	O	Tuner muting control
28		--	Connected to GND	60	X1	--	Connected to GND
29		--	Connected to GND	61	X2	--	Non connection
30		--	Connected to GND	62	Vss	--	GND
31		--	Connected to GND	63	OSC2	O	Clock oscillation output
32		--	Connected to GND	64	OSC1	--	Clock oscillation input

■ MN172412J5F (IC801) : Tuner controller / FL Driver

1. Terminal Layout


MN172412J5F
VDD 1
S16 2
S15 3
S14 4
S13 5
S12 6
S11 7
S10 8
S9 9
S8 10
S7 11
S6 12
S5 13
S4 14
S3 15
S2 16
S1 17
Vdd 18
G1 19
G2 20
G3 21
G4 22
G5 23
G6 24
G7 25
G8 26
G9 27
G10 28
G11 29
G12 30
G13 31
KO1 32
64 OSC1
63 OSC2
62 GND
61 X2
60 X1
59 CS-3
58 CS-2
57 CS-1
56 CS-0
55 TEST
54 FOUT
53 DCSO
52 DCS1
51 TUMUTE
50 CE
49 CLK
48 DOUT
47 DI
46 TUNED
45 STEREO
44 INH IN
43 RESET
42 Com REC
41 Com DATA
40 Com CLK
39 K4-I
38 K3-I
37 K2-I
36 K1-I
35 K4-O
34 K3-O
33 K1-I

2. Key Matrix

	KEY IN1 (pin36)	KEY IN2 (pin37)	KEY IN3 (pin38)
KEY OUT 1 (pin32)	AM	FMMODE/ MUTE	
KEY OUT 2 (pin33)	FM	PRESET UP	PRESET DOWN
KEY OUT 3 (pin34)	SOURCE	MINUTE	HOUR
KEY OUT 4 (pin35)	REC	DAILY	CLOCK

3. Terminal Description

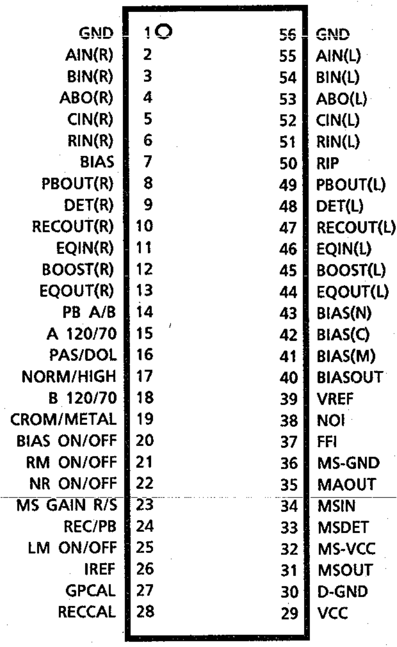
Pin	symbol	I/O	Function and Operations	Pin	symbol	I/O	Function and Operations
1	VDD	--	Power supply	33	K1 I	I	Key matrix input
2	S16	O	FL segment control output	34	K1 I	I	Key matrix input
3	S15	O	FL segment control output	35	K3 O	O	Key matrix out
4	S14	O	FL segment control output	36	K4 O	O	Key matrix out
5	S13	O	FL segment control output	37	K2 I	I	Key matrix input
6	S12	O	FL segment control output	38	K3 I	I	Key matrix input
7	S11	O	FL segment control output	39	K4 I	I	Key matrix input
8	S10	O	FL segment control output	40	Com CLK	O	Request output (to IC951)
9	S9	O	FL segment control output	41	Com DATA	O	Data output (from IC951)
10	S8	O	FL segment control output	42	Com REC	I	Request input (from IC951)
11	S7	O	FL segment control output	43	RESET	I	Reset signal input
12	S6	O	FL segment control output	44	INH IN	I	Inhibit signal input
13	S5	O	FL segment control output	45	STEREO	I	Stereo indication signal input
14	S4	O	FL segment control output	46	TUNED	I	Tuned indication signal input
15	S3	O	FL segment control output	47	D IN	I	Data input from IC121
16	S2	O	FL segment control output	48	D OUT	O	Data output to IC121
17	S1	O	FL segment control output	49	T CLK	O	Clock output to IC121
18	Vdd	--	Power supply for FL Display	50	T CE	O	Strobe output to IC121
19	G1	O	FL grid control output (Key matrix out2)	51	TUMUTE	I	Tuner muting control
20	G2	O	FL grid control output (Key matrix out3)	52	DCSIN	I	DCS signal input
21	G3	O	FL grid control output (Key matrix out4)	53	DCSOUT	O	DCS signal output
22	G4	O	FL grid control output (Key matrix out4)	54	FOUT	O	Frequency test point
23	G5	O	FL grid control output (Key matrix out4)	55	TEST	O	Test mode at 'L'
24	G6	O	FL grid control output (Key matrix out4)	56	CS 0	I	Chip select signal input
25	G7	O	FL grid control output (Key matrix out4)	57	CS 1	I	Chip select signal input
26	G8	O	FL grid control output (Key matrix out4)	58	CS 2	I	Chip select signal input
27	G9	O	FL grid control output (Key matrix out4)	59	CS 3	I	Chip select signal input
28	G10	O	FL grid control output (Key matrix out4)	60	X1	--	Connected to GND
29	G11	O	FL grid control output (Key matrix out4)	61	X2	--	Non connection
30	G12	O	FL grid control output (Key matrix out4)	62	GND	--	GND
31	G13	O	FL grid control output (Key matrix out4)	63	OSC2	--	Clock oscillation input
32	K0 I	I	Key matrix input	64	OSC1	--	Clock oscillation output

■ HA12171NT (IC304) : DOLBY NR&RECORD EQUALIZER

1. Outline

- Dolby B type NR
- Recoed equalizer
- Interval detection

2. Terminal Layout

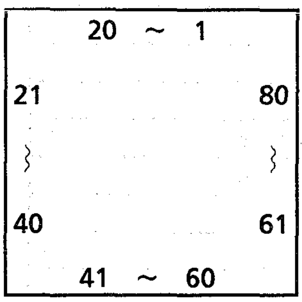

GND 1 56 GND
AIN(R) 2 55 AIN(L)
BIN(R) 3 54 BIN(L)
ABO(R) 4 53 ABO(L)
CIN(R) 5 52 CIN(L)
RIN(R) 6 51 RIN(L)
BIAS 7 50 RIP
PBOUT(R) 8 49 PBOUT(L)
DET(R) 9 48 DET(L)
RECOUT(R) 10 47 RECOUT(L)
EQIN(R) 11 46 EQIN(L)
BOOST(R) 12 45 BOOST(L)
EQOUT(R) 13 44 EQOUT(L)
PB A/B 14 43 BIAS(N)
A 120/70 15 42 BIAS(C)
PAS/DOL 16 41 BIAS(M)
NORM/HIGH 17 40 BIASOUT
B 120/70 18 39 VREF
CROM/METAL 19 38 NOI
BIAS ON/OFF 20 37 FFI
RM ON/OFF 21 36 MS-GND
NR ON/OFF 22 35 MAOUT
MS GAIN R/S 23 34 MSIN
REC/PB 24 33 MSDET
LM ON/OFF 25 32 MS-VCC
IREF 26 31 MSOUT
GPCAL 27 30 D-GND
RECCAL 28 29 VCC

3.Terminal Description

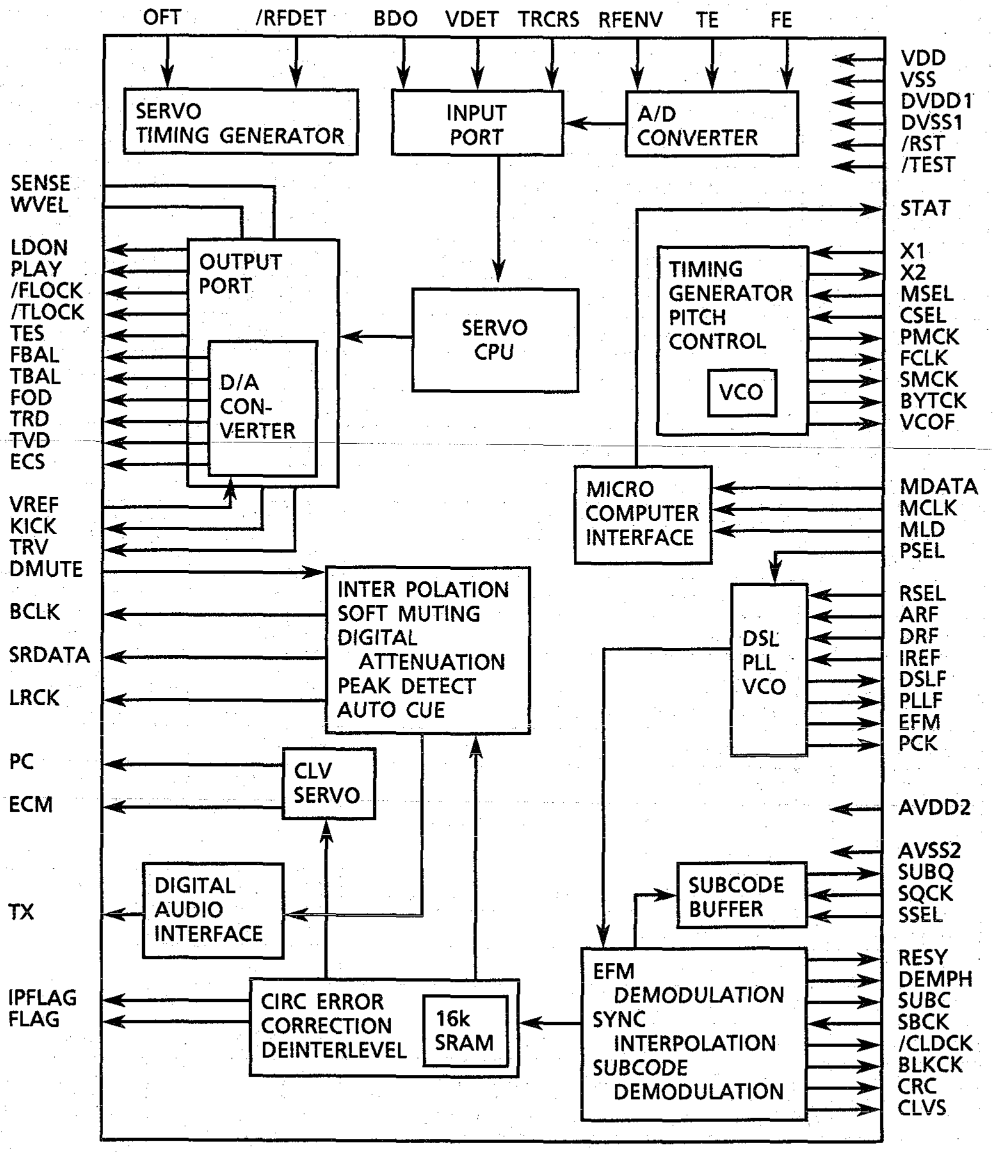
Pin No	Symbol	I/O	Function	Pin No	Symbol	I/O	Function
1	GND	--	Ground	29	VCC	--	Power supply
2	AIN(R)	I	Deck A playback input (Rch)	30	D-GND	--	Digital GND
3	BIN(R)	I	Deck B playback input (Rch)	31	MSOUT	O	Blunk scanning signal output
4	ABO(R)	O	Playback buffer out (Rch)	32	MS-VCC	--	Power supply
5	CIN(R)	I	70µ Buffer input (Rch)	33	MSDET	I	Time constancew setting for music scan
6	RIN(R)	I	Recording input(Rch)	34	MSIN	I	Input for music scan
7	BIAS	I	Connected to GND	35	MAOUT	O	Buffer AMP for music scan
8	PBOUT(R)	O	Playback output (Rch)	36	MS-GND	--	GND
9	DET (R)	I	NR time constance (Rch)	37	FFI	I	Feedback input for MS(FF,REW)
10	RECOUT(R)	O	Recording output (Rch)	38	NOI	I	Feedback input for MS
11	EQIN(R)	I	Input for recording equalizer (Rch)	39	VREF	--	Refference for music scan
12	BOOST(R)	I	Time constance for low boost (Rch)	40	BIASOUT	O	Recording bias control
13	EQOUT(R)	O	Equalizer output (Rch)	41	BIAS(M)	I	Bias current input for metal tape
14	PB A/B	I	Deck A/B select	42	BIAS(C)	I	Bias current input for CrO2 tape
15	A 120/70	I	Deck A playback EQ select	43	BIAS(N)	I	Bias current input for normal tape
16	PASS/DOL	I	Dolby signal path select(Through/pass)	44	EQOUT(L)	O	Equalizer output (Lch)
17	NORM/HIGH	I	Dubbing mode select	45	BOOST(L)	I	Time constance for low boost (Lch)
18	B 120/70	I	Deck B playback EQ select	46	EQIN(L)	I	Input for recording equalizer (Lch)
19	CROM/METAL	I	Tape select	47	RECOUT(L)	O	/Recording output (Lch)
20	BIAS ON/OFF	I	Bias ON/OFF control	48	DET(L)	I	NR time constance (Lch)
21	RM ON/OFF	I	Recording mute ON/OFF control	49	PBOUT(L)	O	Playback output(Lch)
22	NR ON/OFF	I	NR ON/OFF control	50	RIP	I	Ripple filter
23	MS GAIN R/S	I	Gain for music scan control	51	RIN(L)	I	Recording input (Lch)
24	REC/PB	I	Recording/Playback control	52	CIN(L)	--	70µ buffer input (Lch)
25	LM ON/OFF	I	Playback mute ON/OFF control	53	ABO(L)	O	Playback buffer out (Lch)
26	IREF	I	Reference current input	54	BIN(L)	I	Deck B playback input (Lch)
27	GPCAL	I	GP calibration	55	AIN(L)	I	Deck A playback input (Lch)
28	RECCAL	I	Recording gain calibration	56	GND	--	GND

■ MN662721RAM (IC605) : DIGITAL SERVO & DIGITAL SIGNAL PROCESSER

1. Terminal Layout


20 ~ 1
21
80
40
61
41 ~ 60

2. Block Diagram

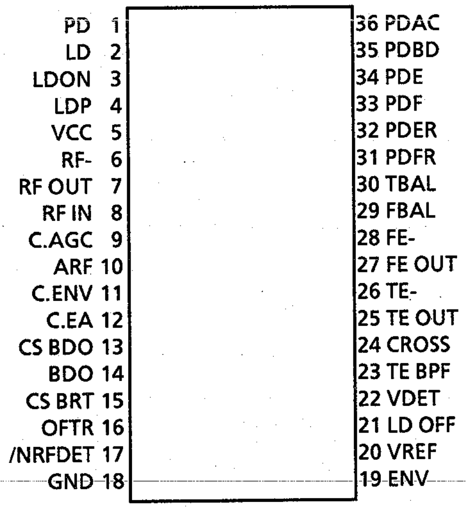

OFT
/RFDET
BDO
VDET
TRCRS
RFENV
TE
FE
SERVO TIMING GENERATOR
INPUT PORT
A/D CONVERTER
VDD
VSS
DVDD1
DVSS1
/RST
/TEST
STAT
SENSE
WVEL
LDON
PLAY
/FLOCK
/TLOCK
TES
FBAL
TBAL
FOD
TRD
TVD
ECS
OUTPUT PORT
D/A CON-VERTER
SERVO CPU
TIMING GENERATOR PITCH CONTROL
VCO
X1
X2
MSEL
CSEL
PMCK
FCLK
SMCK
BYTCK
VCOF
MICRO COMPUTER INTERFACE
MDATA
MCLK
MLD
PSEL
VREF
KICK
TRV
DMUTE
INTER POLATION SOFT MUTING DIGITAL ATTENUATION PEAK DETECT AUTO CUE
BCLK
SRDATA
LRCK
DSL PLL VCO
RSEL
ARF
DRF
IREF
DSLF
PLLF
EFM
PCK
PC
ECM
CLV SERVO
AVDD2
AVSS2
SUBQ
SQCK
SSEL
TX
DIGITAL AUDIO INTERFACE
SUBCODE BUFFER
IPFLAG
FLAG
CIRC ERROR CORRECTION DEINTERLEVEL
16k SRAM
EFM DEMODULATION SYNC INTERPOLATION SUBCODE DEMODULATION
RESY
DEMPH
SUBC
SBCK
/CLDCK
BLKCK
CRC
CLVS

3. Description

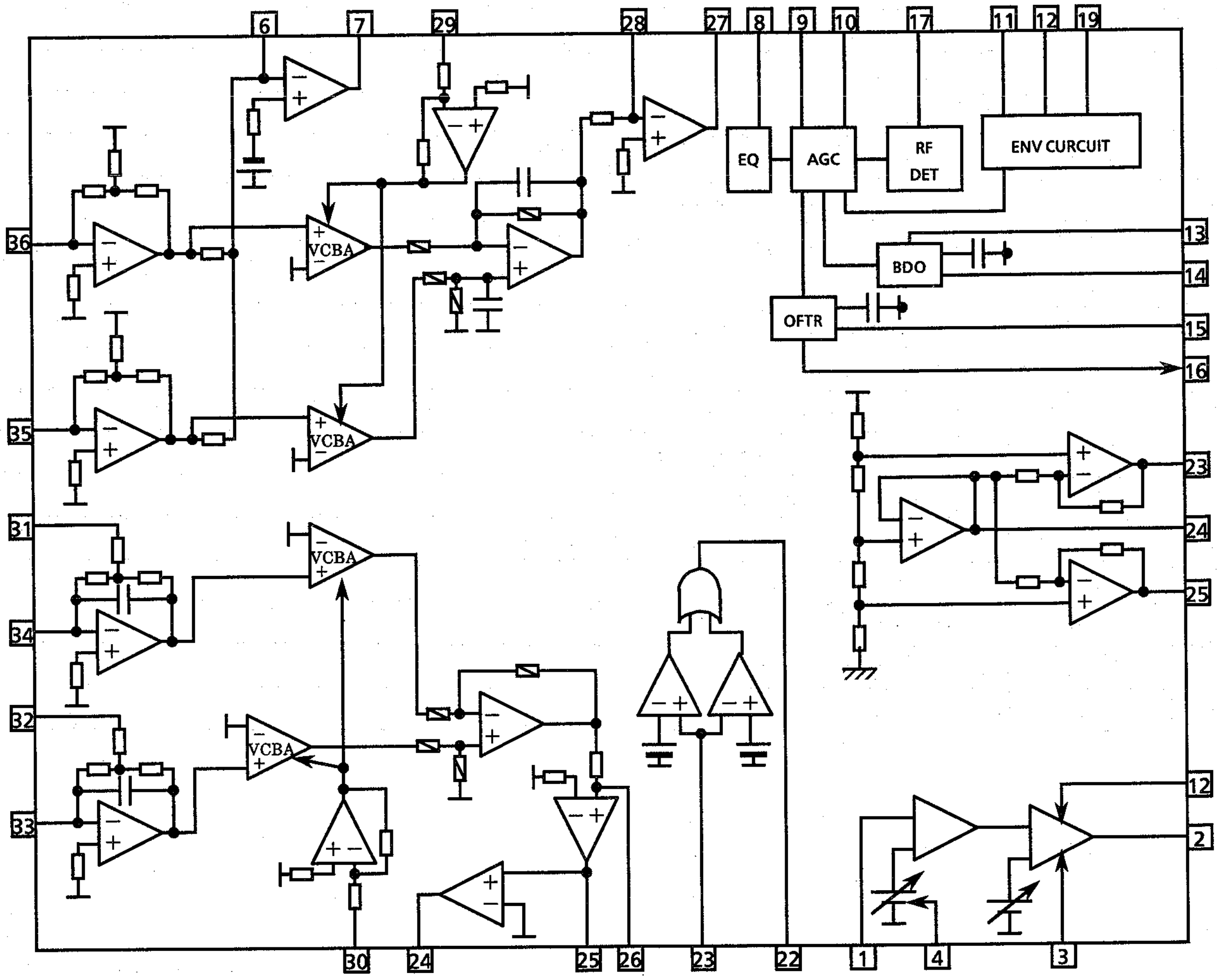
Pin No.	symbol	I/O	Description	Pin No.	symbol	I/O	Description
1	BCLK	O	Bit clock output pin for SRDATA	41	TES	—	Not used
2	LRCK	O	L/R distinction signal	42	PLAY	—	〃
3	SRDATA	O	Serial data output	43	WVEL	—	〃
4	DVDD1	—	Power supply	44	ARF	I	RF signal input
5	DVSS1	—	Connected to GND	45	IREF	I	Reference current input pin
6	TX	O	Digital audio interface signal	46	DRF	I	Bias adjustment pin for DSL
7	MCLK	I	µ-com command clock signal input	47	DSLF	I/O	Loop filter pin for DSL
8	MDATA	I	µ-com command data input	48	PLLF	I/O	Loop filter pin for PLL
9	MLD	I	µ-com command load signal input	49	VCOF	—	Not used
10	SENSE	O	Sense signal output	50	AVDD2	—	Power supply
11	FLOCK	O	Lock signal for Tracking	51	AVSS2	—	Connected to GND
12	TLOCK	O	Lock signal for Focus	52	EFM	—	Not used
13	BLKCK	—	Not used	53	PCK	—	〃
14	SQCK	I	Clock for sub-code Q resister	54	PDO	—	〃
15	SUBQ	O	Sub-code Q-code output	55	SUBC	—	〃
16	DMUTE	I	Muting input (H : MUTE)	56	SBCK	—	Connected to GND
17	STATUS	O	Status signal	57	VSS	—	〃
18	/RST	I	Reset signal input (L:Reset)	58	X1	I	Input of 16.9344MHz X'tal oscillation circuit
19	SMCK	—	Not used	59	X2	—	Not used
20	PMCK	—	Not used	60	VDD	—	Power supply
21	TRV	O	Traverse enforced output	61	BYTCK	—	Not used
22	TVD	O	Traverse drive output	62	CLDCK	—	〃
23	PC	—	Not used	63	FCLK	—	〃
24	ECM	O	Spindle motor drive signal (Enforced output) 3-State	64	IPFLAG	—	〃
25	ECS	O	Spindle motor drive signal (Servo signal)	65	FLAG	—	〃
26	KICK	O	Kick pulse output	66	CLVS	—	〃
27	TRD	O	Tracking drive output	67	CRC	—	〃
28	FOD	O	Focus drive output	68	DEMPH	O	De-emphasis ON signal (H : ON)
29	VREF	I	Reference voltage input pin	69	RESY	—	Not used
30	FBAL	O	Focus Balance adjust signal output	70	RST 2	—	Connected to GND
31	TBAL	O	Tracking Balance adjust signal output	71	/TEST	—	Pull up (+5V)
32	FE	I	Focus error signal input	72	AVDD1	—	Power supply
33	TE	I	Tracking error signal input	73	OUT L	—	Not used
34	RF ENV	I	RF envelope signal input	74	AVSS1	—	Connected to GND
35	VDET	I	Vibration detect signal input	75	OUT R	—	Not used
36	OFT	I	Off track signal input	76	RSEL	—	Pull up (+5V)
37	TRCRS	I	Track cross signal input	77	CSEL	—	Connected to GND
38	/RFDET	I	RF detect signal input	78	PSEL	—	〃
39	BDO	I	BDO input pin	79	MSEL	—	〃
40	LDON	O	Laser ON signal output	80	SSEL	—	Pull up (+5V)

■ AN8806SB (IC600) : RF & SERVO AMP

1. Terminal Layout


PD 1
LD 2
LDON 3
LDP 4
VCC 5
RF- 6
RF OUT 7
RF IN 8
C.AGC 9
ARF 10
C.ENV 11
C.EA 12
CS BDO 13
BDO 14
CS BRT 15
OFTR 16
/NRFDET 17
GND 18
36 PDAC
35 PDBD
34 PDE
33 PDF
32 PDER
31 PDFR
30 TBAL
29 FBAL
28 FE-
27 FE OUT
26 TE-
25 TE OUT
24 CROSS
23 TE BPF
22 VDET
21 LD OFF
20 VREF
19 ENV

2. Block Diagram


6
7
29
28
27
8
9
10
17
11
12
19
EQ
AGC
RF DET
ENV CURCUIT
BDO
OFTR
VCBA
36
35
31
34
32
33
13
14
15
16
23
24
25
12
2
30
24
25
26
23
22
1
4
3

3. Description

Pin No.	Symbol	I/O	Description
1	PD	--	Connected to GND
2	LD	--	Non connection
3	LD ON	--	Connected to GND
4	LDP	--	Connected to GND
5	VCC	--	Power supply
6	RF-	I	Inverse input pin for RF amp
7	RF OUT	O	RF amp output pin
8	RF IN	I	AGC input pin
9	C.AGC	I/O	Connecting pin of AGC loop filter
10	ARF	O	AGC output pin
11	C.ENV	I/O	A capacitor is connected to this terminal to detect the envelope of RF signal
12	C.EA	I/O	A capacitor is connected to this terminal to detect the envelope of RF signal
13	CS BDO	I/O	A capacitor is connected to detect the lower envelope of the RF signal
14	BDO	O	BDO output pin
15	CS BRT	I/O	A capacitor is connected to detect the lower envelope of the RF signal
16	OFTR	O	Of-track status signal output pin
17	/NRFDET	O	RF detection signal output pin
18	GND	--	GND
19	ENV	O	Envelope output
20	VREF	O	Reference voltage output pin
21	LD OFF	--	Connect to GND
22	VDET	O	Vibration detection signal output pin
23	TE BPF	I	Input pin of tracking error through BPF
24	CROSS	O	Tracking error cross output pin
25	TE OUT	O	Tracking error signal output pin
26	TE-	I	Inverse input pin for tracking error amp
27	FE OUT	O	Output pin of focus error
28	FE-	I	Inverse input pin for focus error amp
29	FBAL	I	Focus balance control pin
30	TBAL	I	Tracking balance control pin
31	PDFR	I/O	E and E I-V amp gain control pin
32	PDER	I/O	F and E I-V amp gain control pin
33	PDF	I	I-V amp input pin
34	PDE	I	I-V amp input pin
35	PD BD	I	I-V amp input pin
36	PD AC	I	I-V amp input pin

■ LC7218JM (IC121) : PLL Synthesizer

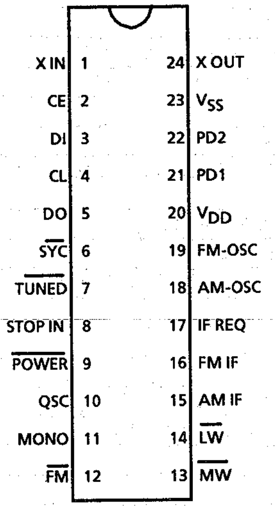
1. The main function descriptions

(1) It makes the local oscillation frequency by the control data from IC901.

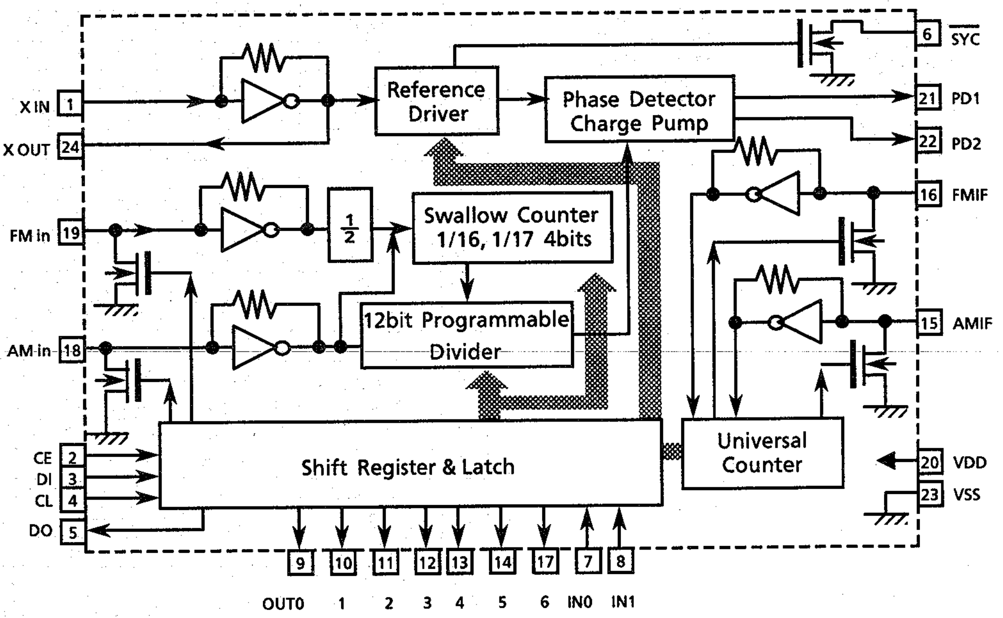
(2) Decode the control signal and transmit the signal for receiving conditions.

(3) For the best tuning, count the internal-frequency and transmit the data to IC901.

2. Terminal Layout


X IN 1
CE 2
DI 3
CL 4
DO 5
SYC 6
TUNED 7
STOP IN 8
POWER 9
QSC 10
MONO 11
FM 12
24 X OUT
23 V_{SS}
22 PD2
21 PD1
20 V_{DD}
19 FM-OSC
18 AM-OSC
17 IF REQ
16 FM IF
15 AM IF
14 LW
13 MW

3. Block Diagram

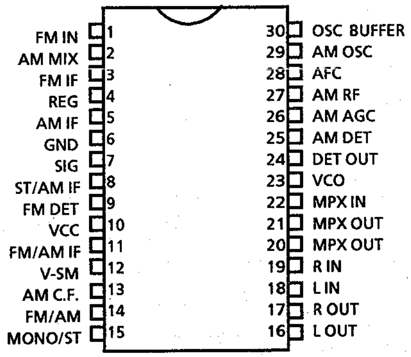

X IN 1
X OUT 24
FM in 19
AM in 18
CE 2
DI 3
CL 4
DO 5
Reference Driver
Phase Detector Charge Pump
1/2
Swallow Counter 1/16, 1/17 4bits
12bit Programmable Divider
Shift Register & Latch
Universal Counter
6 SYC
21 PD1
22 PD2
16 FMIF
15 AMIF
20 VDD
23 VSS
9 10 11 12 13 14 17 7 8
OUT0 1 2 3 4 5 6 IN0 IN1

4. Pin Functions

Pin No.	Symbol	I/O	Functions
1,24	X in , X out	I/O	Crystal oscillator (7.2MHz).
2	CE	I	Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data.
3	DI	I	Receive the control data from the controller (IC801).
4	CL	I	This clock is used to synchronize data when transmitting the data of DI and DO.
5	DO	O	Transmit the data from LC7218 to the controller which is synchronized with CL.
6	SYC	—	Not used.
7	TUNED	I	Receive the tuned signal from IC104 (LA1266A).
8	STOP IN	—	Connected to GND
9	POWER	—	Not used.
10	QSC	—	Not used.
11	MONO	O	It is "H" on FM-monaural, "L" on FM-Stereo.
12	FM	O	It is "L" on FM mode.
13	MW	O	It is "L" on MW mode.
14	LW	O	It is "L" on LW mode.
15	AM-IF	I	Universal counter input for AM-IF from IC104 (LA1266A).
16	FM-IF	I	Universal counter input for FM-IF from IC104(LA1266A).
17	IF REQ	O	Output the "IF-signal request" to IC104 when the pin-7 (tuned in) goes to "H".
18	AM OSC	I	Input the local oscillator signal of AM.
19	FM OSC	I	Input the local oscillator signal of FM.
20	V_{DD}	—	This is a terminal of power supply.
21	PD1	O	PLL charge pump output: When the local oscillator signal frequency is higher than the reference frequency high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
22	PD2	—	Not used.
23	Vss	—	Connected to GND

■ LA1836M (IC102) : FM AM IF AMP & detector

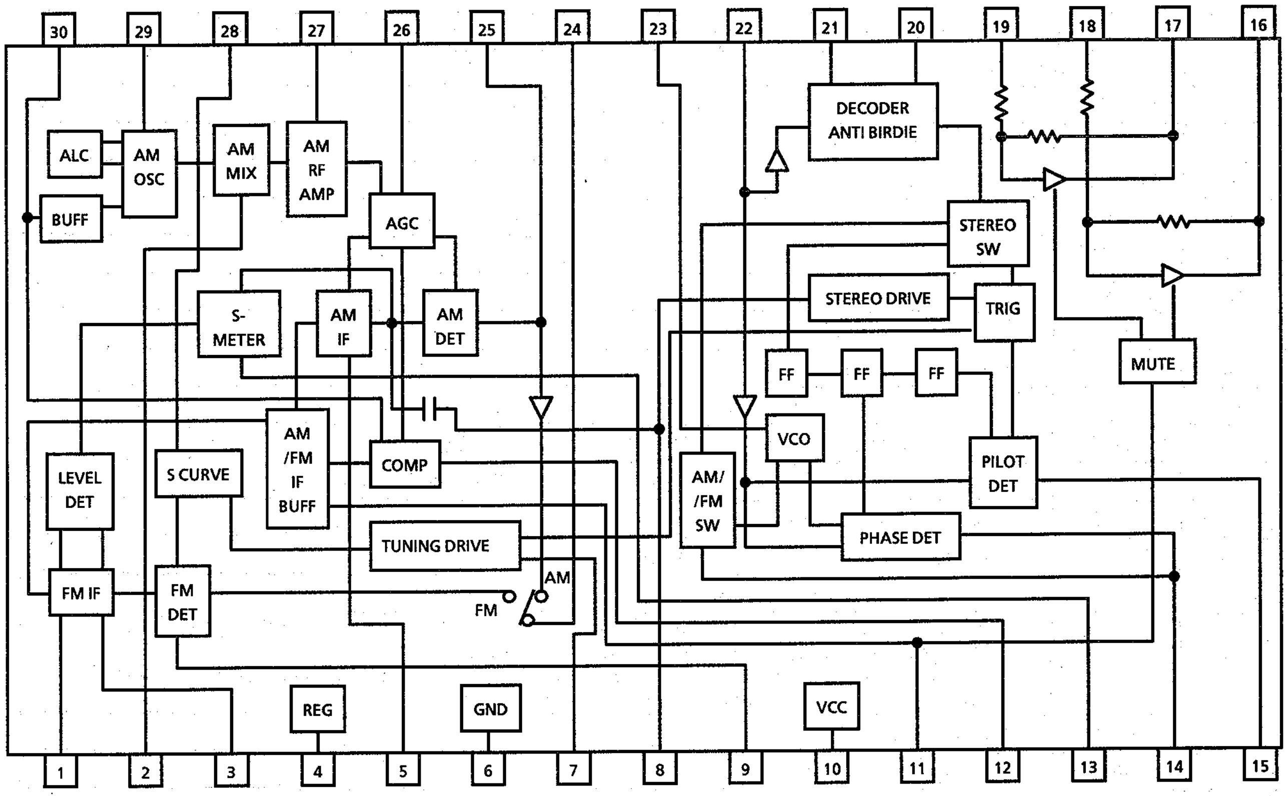
1. Terminal Layout


FM IN 1
AM MIX 2
FM IF 3
REG 4
AM IF 5
GND 6
SIG 7
ST/AM IF 8
FM DET 9
VCC 10
FM/AM IF 11
V-SM 12
AM C.F. 13
FM/AM 14
MONO/ST 15
30 OSC BUFFER
29 AM OSC
28 AFC
27 AM RF
26 AM AGC
25 AM DET
24 DET OUT
23 VCO
22 MPX IN
21 MPX OUT
20 MPX OUT
19 R IN
18 L IN
17 R OUT
16 L OUT

3. Pin Function

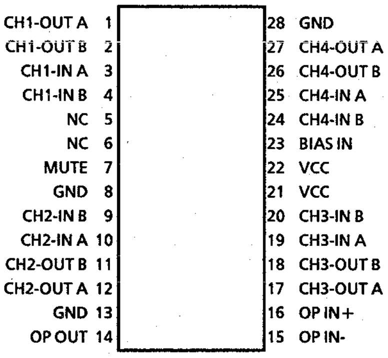
Pin No.	Symbol	I/O	Function
1	FM IN	I	This is an input terminal of FM IF Signal.
2	AM MIX	O	This is an output terminal for AM mixer.
3	FM IF	I	Bypass of FM IF
4	REG	—	Register value between pin4 and pin28 desides the frequency width of the input signal.
5	AM IF	I	Input of AM IF Signal.
6	GND	—	This is the device ground terminal.
7	SIG	O	When the set is tunning, this terminal becomes "L".
8	ST/AM IF	O	Stereo indicator output. Stereo : "L", Mono : "H"
9	FM DET	—	FM detect transformer.
10	VCC	—	This is the power supply terminal.
11	FM/AM IF	O	When the signal of IF REQ of IC121(LC7218) appear, the signal of FM/AM IF output.
12	VSM	O	S Meter output and adjust AM SD sensitivity.
13	AM C.F.	I	This is a terminal of AM ceramic filter.
14	FM/AM	I	Change over the FM / AM input. "H" : FM, "L" : AM
15	MONO/ST	O	Stereo : "H", Mono : "L"
16	L OUT	O	Left channel signal output.
17	R OUT	O	Right channel signal output
18	L IN	I	Input terminal of the Left channel post AMP.
19	R IN	I	Input terminal of the Right channel post AMP.
20	MPX L OUT	O	Mpx Left channel signal output.
21	MPX R OUT	O	Mpx Right channel signal output.
22	MPX IN	I	Mpx input terminal.
23	VCO	I	Voltage controlled oscillator terminal.
24	DET OUT	O	AM/FM detection output.
25	AM DET	—	AM low cut adjustment.
26	AM AGC	I	This is an AGC voltage input terminal for AM.
27	AM RF	I	This is an input terminal for AM RF signal.
28	AFC	—	This is an output terminal of voltage for FM-AFC.
29	AM OSC	—	This is a terminal of AM Local oscillation circuit.
30	OSC BUFFER	O	AM Local oscillation Signal output.

2. Block Diagram

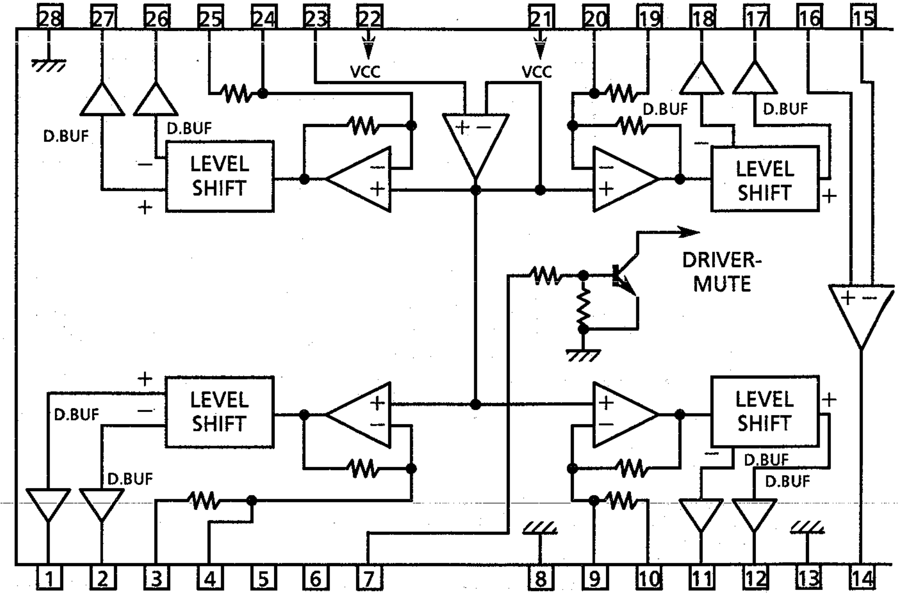

30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
ALC
AM OSC
BUFF
AM MIX
AM RF AMP
AGC
S-METER
AM IF
AM DET
DECODER ANTI BIRDIE
STEREO SW
STEREO DRIVE
TRIG
MUTE
FF
FF
FF
VCO
PILOT DET
PHASE DET
AM/ /FM SW
LEVEL DET
S CURVE
AM /FM IF BUFF
COMP
TUNING DRIVE
AM
FM
FM IF
FM DET
REG
GND
VCC
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

■ BA6398FP(IC700) : BTL DRIVER

1. Terminal Layout


CH1-OUT A 1
CH1-OUT B 2
CH1-IN A 3
CH1-IN B 4
NC 5
NC 6
MUTE 7
GND 8
CH2-IN B 9
CH2-IN A 10
CH2-OUT B 11
CH2-OUT A 12
GND 13
OP OUT 14
28 GND
27 CH4-OUT A
26 CH4-OUT B
25 CH4-IN A
24 CH4-IN B
23 BIAS IN
22 VCC
21 VCC
20 CH3-IN B
19 CH3-IN A
18 CH3-OUT B
17 CH3-OUT A
16 OP IN+
15 OP IN-

2. Block Diagram

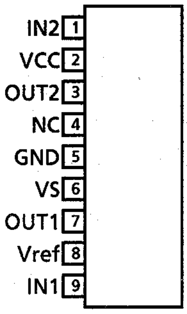

28
27
26
25
24
23
22
21
20
19
18
17
16
15
VCC
VCC
D.BUF
D.BUF
D.BUF
D.BUF
LEVEL SHIFT
LEVEL SHIFT
LEVEL SHIFT
LEVEL SHIFT
DRIVER-MUTE
D.BUF
D.BUF
D.BUF
D.BUF
1
2
3
4
5
6
7
8
9
10
11
12
13
14

3.Description

Pin No.	Symbol	I/O	Description
1 2	CH1-OUT A CH1-OUT B	O	Focus drive output
3	CH1-IN A	I	Focus drive input
4 5,6 10 19 24	CH1-IN B NC CH2-IN A CH3-IN A CH4-IN B	—	Non connection
7	MUTE	I	Mute signal input pin
9 20	CH2-IN B CH3-IN B	I I	Spindle motor drive input Feed motor drive input
25	CH4-IN A	I	Tracking drive input

Pin No.	Symbol	I/O	Description
8,13,28	GND	—	GND
11 12	CH2-OUT B CH2-OUT A	O	Spindle motor drive output
14	OP OUT	O	OP amp output
15,16	OP IN	I	OP amp input
17 18	CH3-OUT A CH3-OUT B	O	Feed motor drive output
21,22	Vcc	—	Power supply
23	BIAS IN	I	Input pin of Bias
26 27	CH4-OUT B CH4-OUT A	O	Tracking drive output

■ T8409F (IC750) : DC MOTOR DRIVER


IN2 1
VCC 2
OUT2 3
NC 4
GND 5
VS 6
OUT1 7
Vref 8
IN1 9

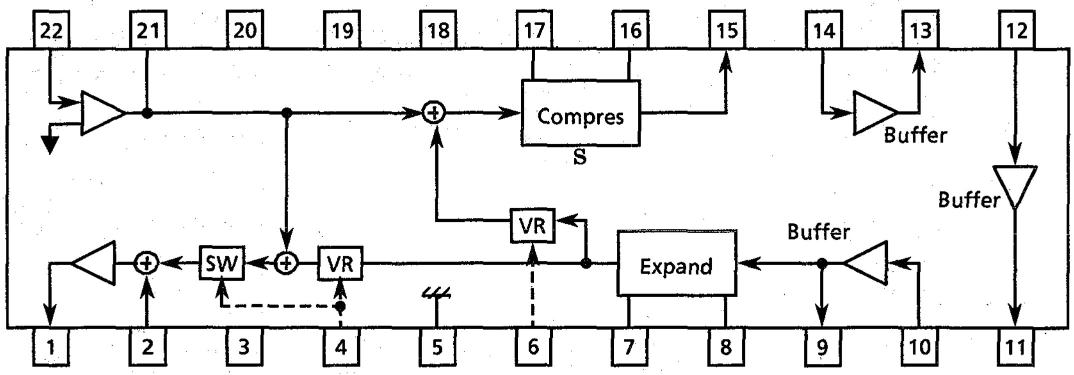
Function

INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	OPEN
0	1	L	H	CLOSE
1	1	L	L	BRAKE

∞: Hight impedance

■ BA7725S (IC998) :Echo circuit

1. Internal Block Diagram

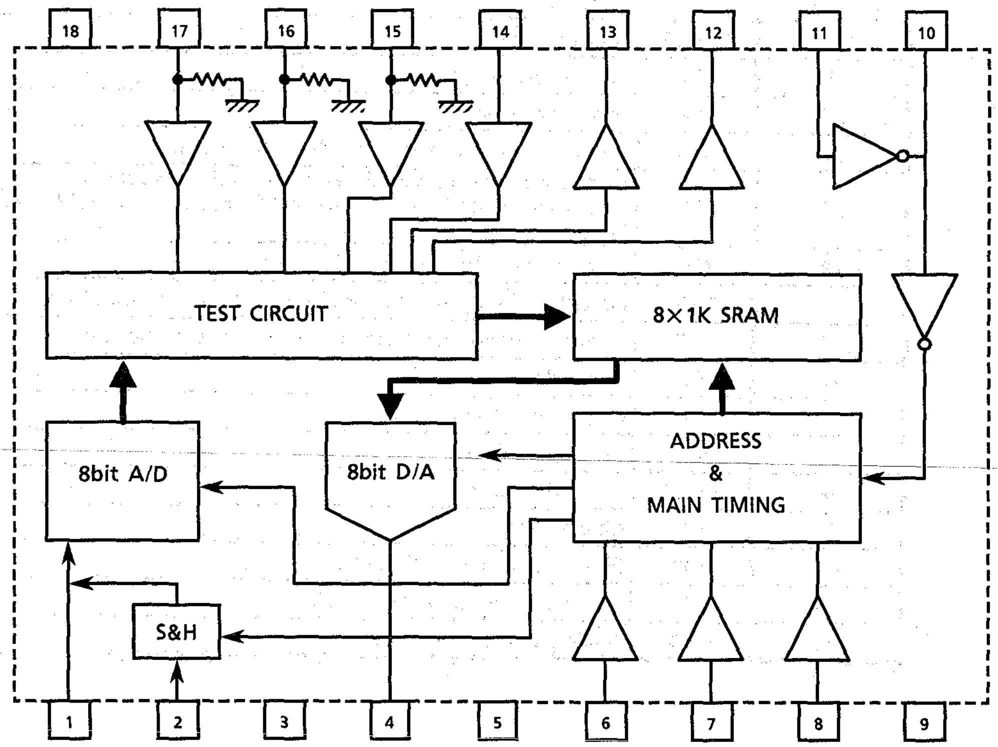


2. Terminal Description

Pin No.	Symbol	Function
1	LINE OUT	Line output
2	LINE IN	Line input
3	NC	Not used
4	ECHO LEV CTRL	Determines echo level. The echo circuit is off when 1 volt is added. The echo level varies according to the voltage from 2 volts to 9 volts.
5	GND	Analog GND
6	LOOP GAIN CTRL	Loop gain control terminal. The gain baries according to the voltage from 2 volts to 9 volts.
7	EXP DET	Detection terminal for expand circuit
8	EXP DET CT	Determines the atack and recovery time of expand circuit
9	EXP BF OUT	Buffer output (Expand circuit side)
10	EXP BF IN	Buffer input (Expand circuit side)
11	DLY BF OUT	Delay buffer output
12	DLY BF IN	Delay buffer input
13	CMP BF OUT	Buffer output (Compress circuit side)
14	CMP BF IN	Buffer input (Compress circuit side)
15	CMP OUT	Compress circuit output
16	CMP DET CT	Determines the atack and recovery time of compress circuit
17	CMP DET	Detection terminal for compress circuit
18	RIPPLE FITER	A capacitor is connected for ripple ellimination filter
19	VCC	Power supply
20	NC	Not used
21	MIC AMP OUT	Mic amp output
22	MIC AMP IN	Mic amp input

■ BU9251S: IC999 (D/A DELAY & A/D)

1. Block Diagram

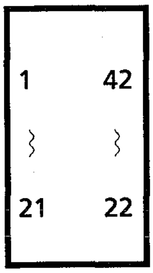

18
17
16
15
14
13
12
11
10
TEST CIRCUIT
8×1K SRAM
8bit A/D
8bit D/A
ADDRESS
&
MAIN TIMING
S&H
1
2
3
4
5
6
7
8
9

2. Terminal Function

Pin No	Pin Name	Function
1	S&H	Capaciter connected pin for sample and hold
2	AIN	Input for analog signal
3	GND	GND
4	AOUT	Output for analog signal
5	VDD	Power supply
6	DCNT0	Delay time setting
7	DCNT1	Delay time setting
8	DCNT2	Delay time setting
9	GND	GND
10	OSC0	Oscillating 2
11	OSC1	Oscillating 1
12	TDO1	For test (output)
13	TDO0	For test (output)
14	TDIN	For test (input)
15	TST2	Mode setting for test
16	TST1	Mode setting for test
17	TST0	Mode setting for test
18	VCC	Power supply

■ XR109502 (IC802): Graphic Equalizer Filter & Display driver

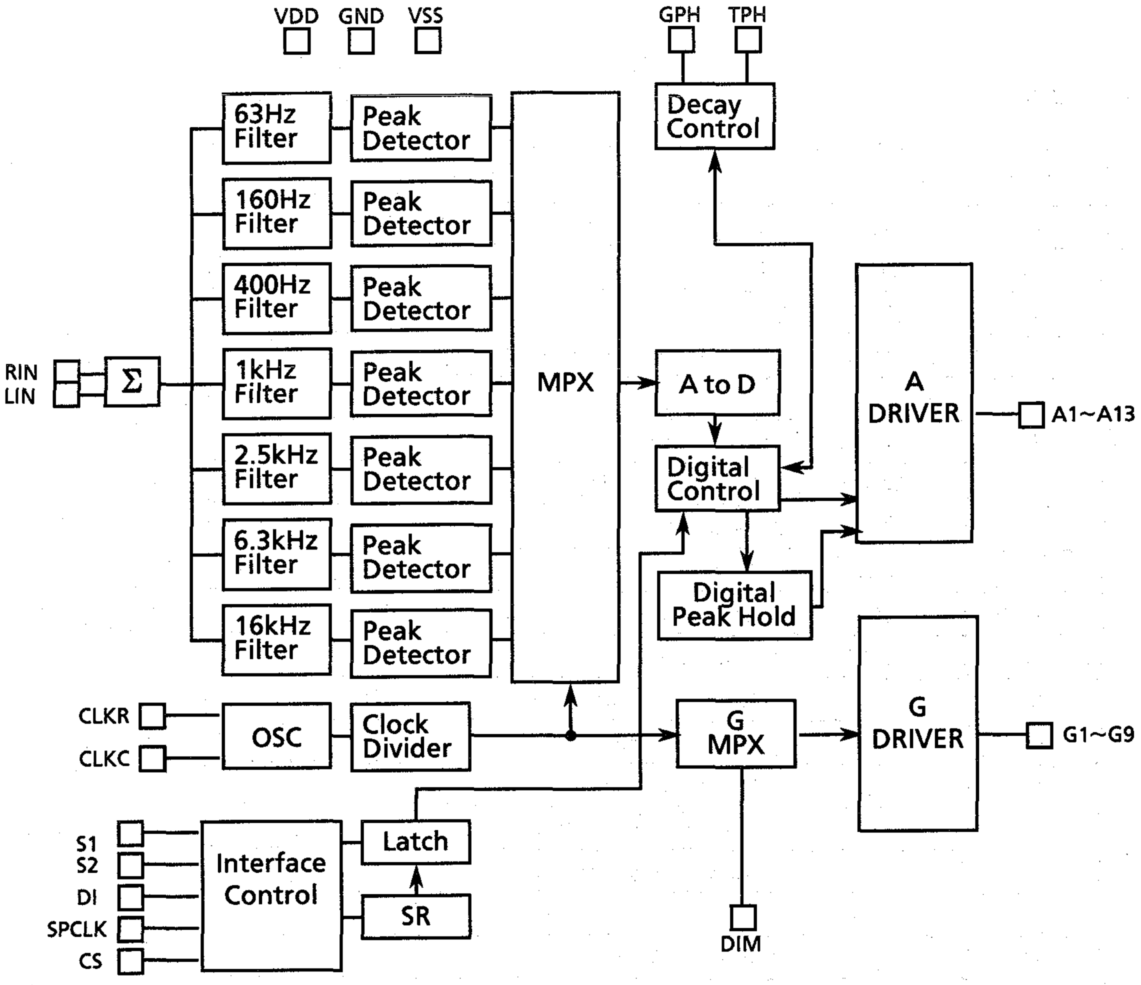
1. Terminal Layout



2. Pin function

Pin No.	Symbol	Function
1~5,9~16	A1~A13	Anode terminal
30~38	G1~G9	Grid terminal
25	RIN	Right channel input
26	LIN	Left channel input
22	DIM	Brightness control varies width of G outputs.
27	GPH	Filter amplitude display duration control. A resistor and timing capacitor from this pin to VSS adjust Peak Hold Decay Time.
28	TPH	Total output display on / off control.
40	CLKR	Oscillator timing resistor between this pin and CLKC pin.
41	CLKC	Oscillator timing capacitor between this pin and VSS.
20	S1	Chip select 1 pin.
21	S1	Chip select 2 pin.
19	DI	Serial port data.
18	SPCLK	Serial port clock.
17	CS	Chip Select.
42	VDD	Plus supply, nominally 5VDC.
23	VSS	Minus supply, nominaly −5VDC.
24	GND	Analog input reference.

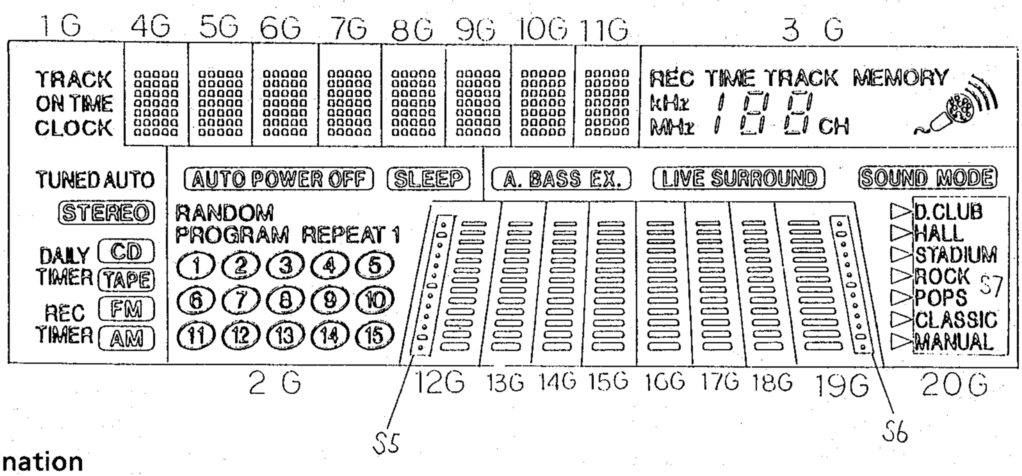
3. Block Diagram


VDD
GND
VSS
GPH
TPH
Decay Control
63Hz Filter
160Hz Filter
400Hz Filter
1kHz Filter
2.5kHz Filter
6.3kHz Filter
16kHz Filter
Peak Detector
Peak Detector
Peak Detector
Peak Detector
Peak Detector
Peak Detector
Peak Detector
RIN
LIN
Σ
MPX
A to D
Digital Control
Digital Peak Hold
A DRIVER
A1~A13
CLKR
CLKC
OSC
Clock Divider
G MPX
G DRIVER
G1~G9
S1
S2
DI
SPCLK
CS
Interface Control
Latch
SR
DIM

Internal Connection of the Display

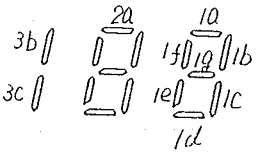
■ ELU0001-189: FL TUBE(FL800)

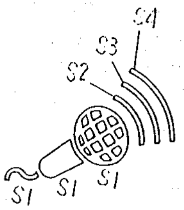
(1) Grid Layout


1G
4G
5G
6G
7G
8G
9G
10G
11G
3 G
TRACK
ON TIME
CLOCK
REC TIME TRACK MEMORY
kHz
MHz
CH
TUNED AUTO
STEREO
DAILY TIMER
REC TIMER
CD
TAPE
FM
AM
AUTO POWER OFF
SLEEP
A. BASS EX.
LIVE SURROUND
SOUND MODE
RANDOM
PROGRAM REPEAT 1
①②③④⑤
⑥⑦⑧⑨⑩
⑪⑫⑬⑭⑮
D.CLUB
HALL
STADIUM
ROCK
POPS
CLASSIC
MANUAL
S7
2 G
12G
13G
14G
15G
16G
17G
18G
19G
20G
S5
S6

(2) Anode Designation

	1G	2G	3G	4-11G
1A	TRACK	①	REC TIME	1
2A	ON TIME	②	TRACK	2
3A	CLOCK	③	MEMORY	3
4A		④		4
5A	TUNED	AUTO POWER OFF	KHz	5
6A	AUTO	SLEEP	MHz	6
7A	STEREO		CH	7
8A	CD	⑤	S1	8
9A	TAPE	⑥	S2	9
10A	FM	⑦	S3	10
11A	AM	⑧	S4	11
12A	DAILY TIMER	RAMDOM	3b,3c	12
13A	REC TIMER	PROGRAM		13
14A				14
15A		⑨	2a	15
16A		⑩	2b	16
17A		⑪	2c	17
18A		⑫	2d	18
19A		REPEAT	2e	19
20A		1	2f	20
21A			2g	21
22A		⑬	1a	22
23A		⑭	1b	23
24A		⑮	1c	24
25A			1d	25
26A			1e	26
27A			1f	27
28A			1g	28
29A				29
30A				30
31A				31
32A				32
33A				33
34A				34
35A				35


3b
3c
2a
1a
1f
1g
1b
1e
1c
1d


S4
S3
S2
S1
S1
S1

(3) Pin Connections

(UPPER)

TERMINAL NO.	106	105	104	103	102	101	100	99	98	97	96	95	94	93	92	91	90			
ELECTRODE	F1	F1	F1	NP	NP	P 1A	P 2A	P 3A	P 4A	P 5A	P 6A	P 7A	9G	P 8A	P 9A	P 10A	P 11A			
TERMINAL NO.	89	88	87	86	85	84	83	82	81	80	79	78	77	76	75	74	73	72	71	70
ELECTRODE	P 12A	P 13A	NC	NC	NC	IC	P 14A	10G	P 15A	P 16A	P 17A	P 18A	P 19A	P 20A	P 21A	11G	NC	P 22A	P 23A	P 24A
TERMINAL NO.					69	68	67	66	65	64	63	62	61	60	59	58	57	56	55	54
ELECTRODE					P 25A	P 26A	P 27A	P 28A	P 29A	P 30A	P 31A	P 32A	P 33A	P 34A	P 35A	NP	NP	F2	F2	F2

(LOWER)

TERMINAL NO.					38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
ELECTRODE					P 3B	P 4B	P 5B	P 6B	P 7B	P 8B	P 9B	P 10B	P 11B	P 12B	P 13B	NP	NP	F2	F2	F2
TERMINAL NO.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
ELECTRODE	NC	NC	NC	IC	NC	NC	NC	NC	P 14B	12G	13G	14G	15G	16G	17G	18G	19G	20G	P 1B	P 2B
TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
ELECTRODE	F1	F1	F1	NP	NP	8G	7G	6G	5G	4G	3G	2G	1G	NC	NC	NC	NC			

Notes
F: Filament
G: Grid
P: Anode
NP: No Pin
IC: Internally Connected Pin
NC: No Connection

Disassembly Procedures

(1) Top cover removal

1. Remove 6 screws Ⓐon the rear side and 2 screws Ⓐ on both sides of the cover.
2. Remove the cover.

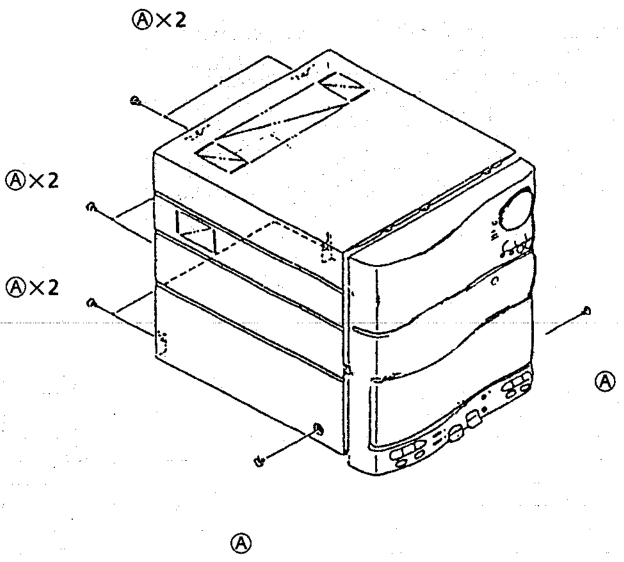


Fig1

(2) Rear panel removal

1. Remove the top cover.
2. Remove the 2screws Ⓑ holding the heetsynk cover.
3. Remove the 9 screws.
4. Remove the heat sink cover and rear panel.

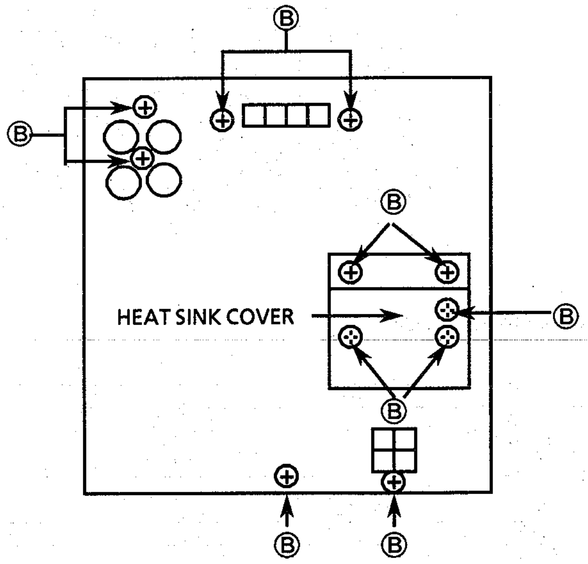


Fig2 Rear view

(3) Tuner PCB (ENA-159-1) removal

1. Remove the (1)and(2).
2. Remove J103.
3. Remove JA101.
4. Remove the tuner PCB.

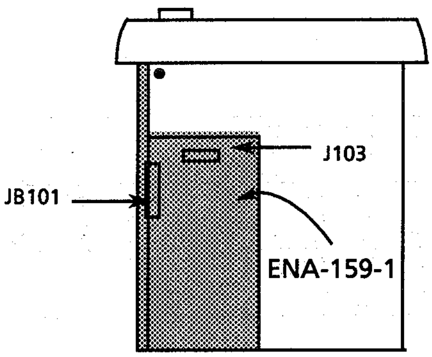


Fig 3 Top view

(4) Main VR and Souce select PCB (FSB-001) removal

1.Remove the (1)(2)and(3).
2.Remove the main volume knob.
3. Remove the NUT for the volumeshaft.
4. Remove the P401 and P402.
5. Remove the Main VR and Souce select PCB.

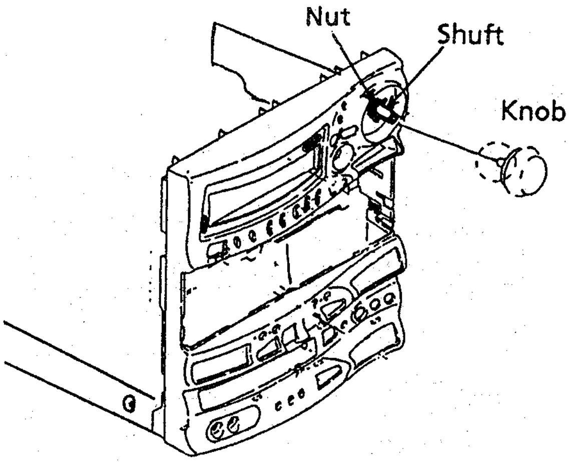


Fig 4 FRont view

Ⓐ .. SDSG3006M Ⓑ ... E73273-003

(5) Main PCB(ENH-251-1) removal
1. Remove the (1)AND(2).
2. Remove the 4 screwsⒸ.
3. Remove the J401 J402and ,J410,JA801,FW501 J801,JA601.
4. Remove the P304,P303,and JA852.
5. Remove the Main PCB and AMP PCB.

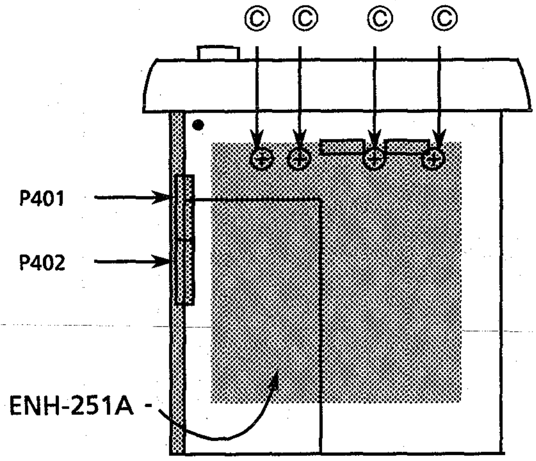

Ⓒ
Ⓒ
Ⓒ
Ⓒ
P401
P402
ENH-251A -

Fig 5 Top view

(6) AMP PCB(ENH-251-2) removal
1. Remove the (5).
2. Remove the AMP PCB

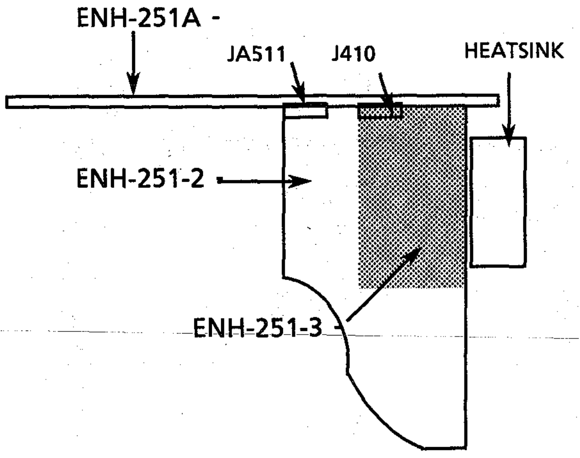

ENH-251A -
JA511
J410
HEATSINK
ENH-251-2
ENH-251-3

Fig 6 AMP PCB view

(7) Front panel assembly removal.
1. Remove the (1)(2)and (5).
2. Remove the 2 screwsⒸ.
3. Remove the Fook of the bottom side and both side..
4. Remove the Front panel assembly.

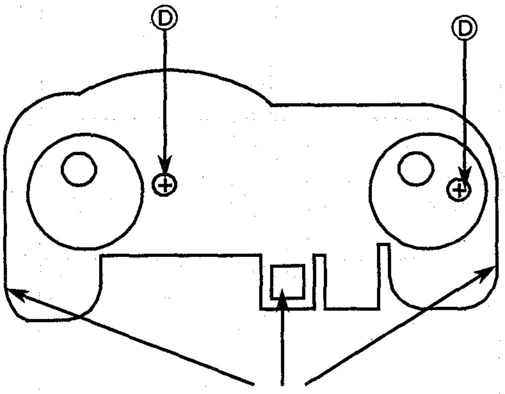

Ⓓ
Ⓓ
Remove the FOOKs

Fig 7 Bottom view

(8) Front PCB(FSB-001-1) removal
1. Remove the (1)(2)and (4).
2. Remove the Front panel ass'y.
3. Remove the 7 screws Ⓔ .
4. Remove the Front PCB.

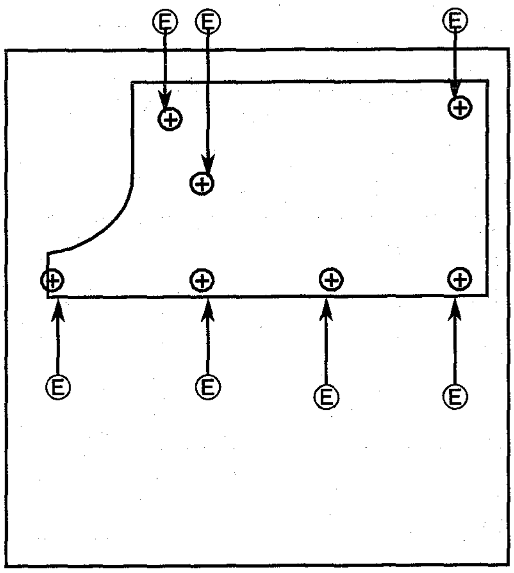


Fig 8 Front panel rear view

Ⓒ .. SPST2604Z Ⓓ ... SBST3006M Ⓔ ... SDSF2608Z

(9) Cassette mechanism with the PCB (FSC-002-3) removal

1. Remove the (1)(2)and (5).
2. Remove the screw ⓖ holding the sheld plate.
3. Remove the 4screws Ⓕ and 4screws ⓖ.
4. Remove the Cassette mechanism.

(10) Cassette holder removal

1. Open the cassette door.
2. Remove the Cassette mechanism assembly.
3. Remove the Cassette holder slide up ward.

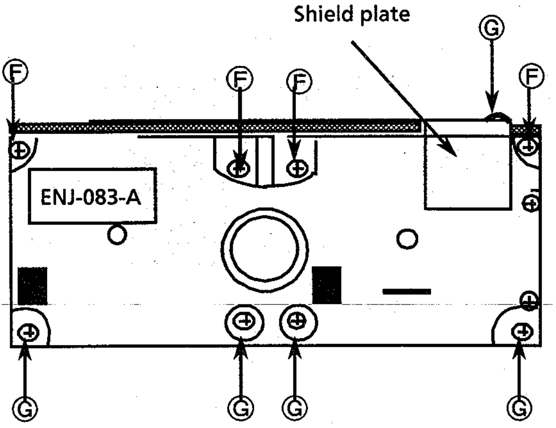


Fig 9 Front panel Rear view

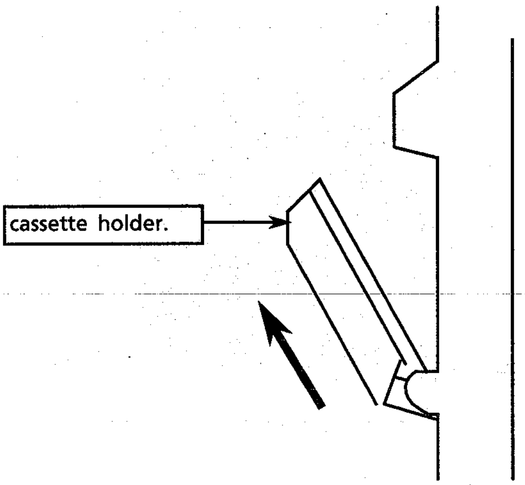


Fig 10 Side view

(11) Front SW PCB(FSB-001-2) removal

1. Remove the (1),(2),(4)and (5),(7),(10).
2. Remove the Cassette mechanism assembly.
3. Remove the 6 screws Ⓔholding the braket.
4. Remove the 9 screws Ⓔholding the SW PCB.
5. Remove the SW PCB.

(12) Cassette door lock plate removal

1. Remove the (1),(2)and (5),(9).
2. Remove the 2screw Ⓔholding the door lock plate.
3. Remove the door lock plate.

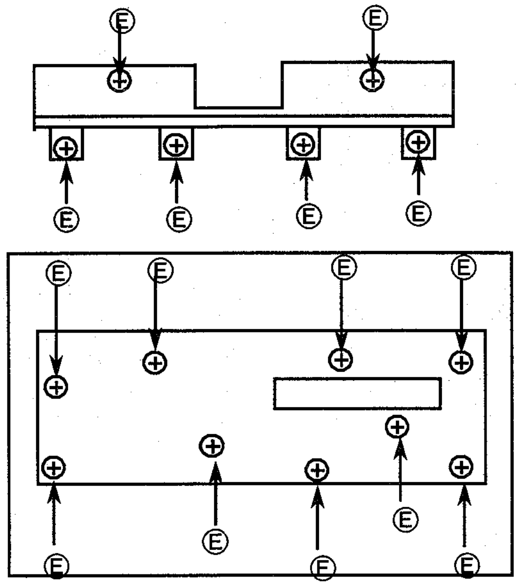


Fig 11 Front panel Rear view

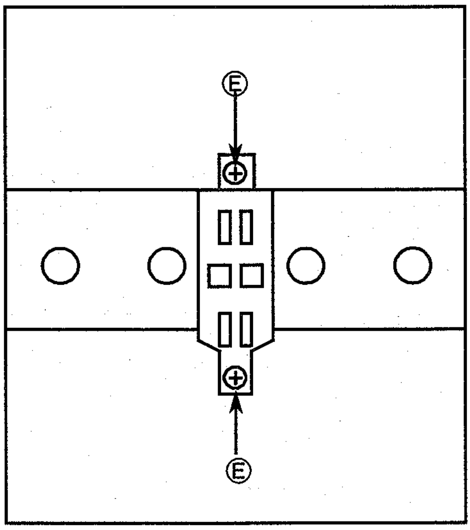


Fig 12 Front panel Rear view

Ⓔ .. SDSF2608Z Ⓕ ... SBSF3008Z Ⓖ ... SBST3006Z

(13) Damper removal

1. Remove the cassette mechanism.
2. Remove the spring holding the cassette holder.
3. Press the tab which secures the damper to remove the damper.(See the arrow shown in the figure below)

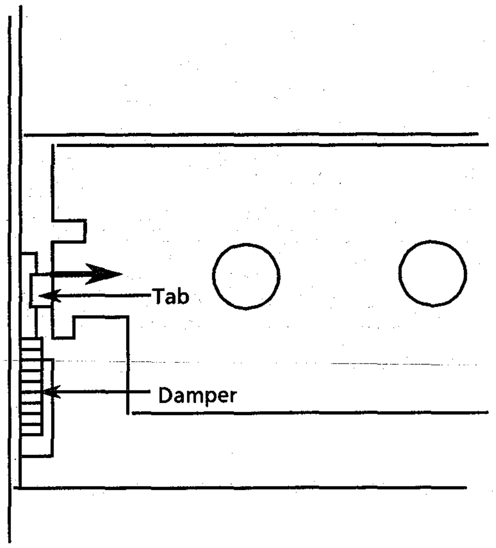


Fig 13 Door damper view

(14) Cassette holder removal

1. Remove the Cassette mechanism assembly.
2. Remove the spring holding the cassette holder.
3. Remove Cassette holder .

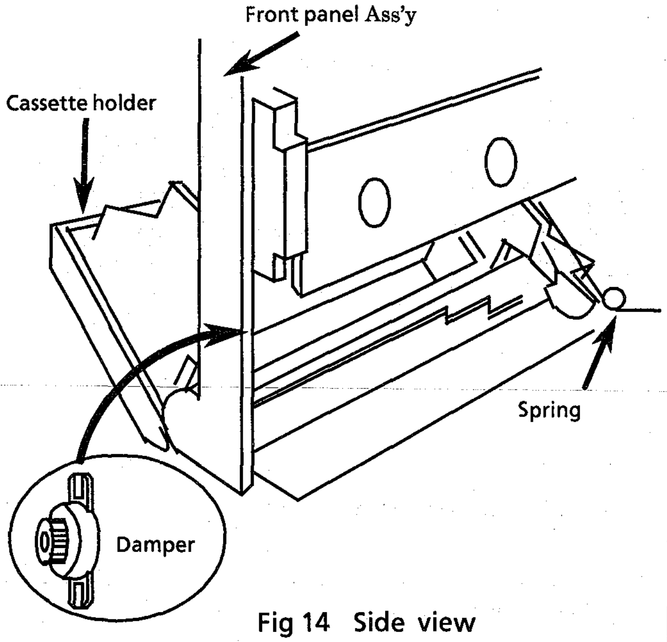

Front panel Ass'y
Cassette holder
Spring
Damper

Fig 14 Side view

(15) Capstan motor removal.

1. Remove the cassette mechanism.
2. Remove the cassette deck control PCB.
3. Remove the 6screws holding the bracket.
4. Remove the capstan motor with the bracket.
5. Remove the 2screws fixing the motor and the braket.

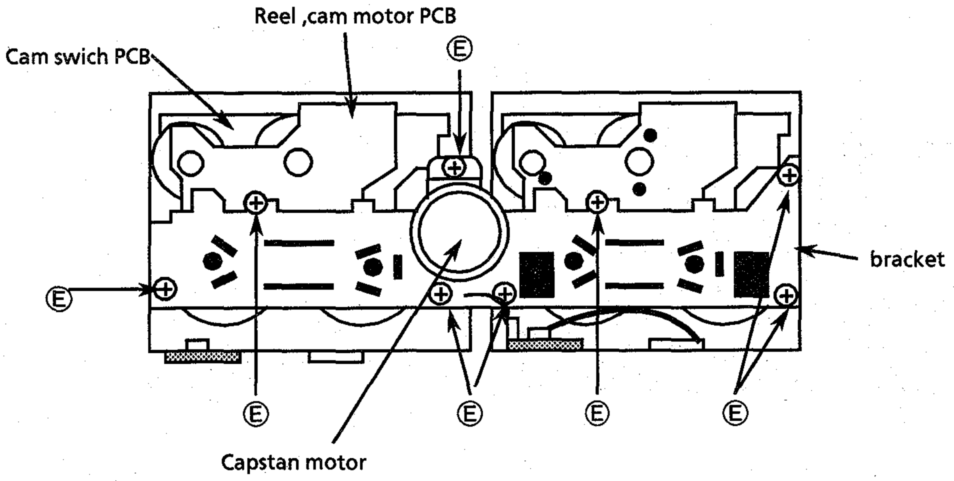

Reel ,cam motor PCB
Cam swich PCB
Ⓔ
bracket
Ⓔ
Ⓔ
Ⓔ
Ⓔ
Ⓔ
Capstan motor

Fig 15 Cassette mechanism bottom view

Ⓔ .. SDSF2608Z

(16) Head assembly

The direction of the head is changed with the head gear. When servicing, install the head gear according to the direction of the head.

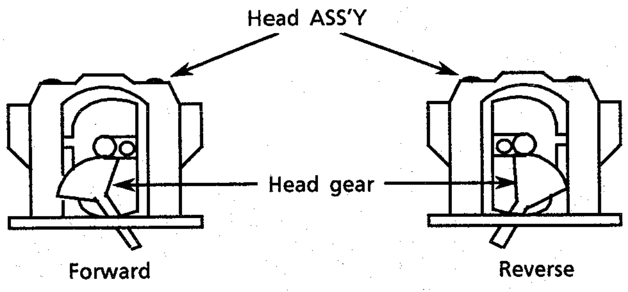

Head ASS'Y
Head gear
Forward
Reverse

Fig16 Head ass'y side view

(17) Pinch roller arm assembly removal

1. Release the hook holding the pinch roller arm assembly to remove the assembly.

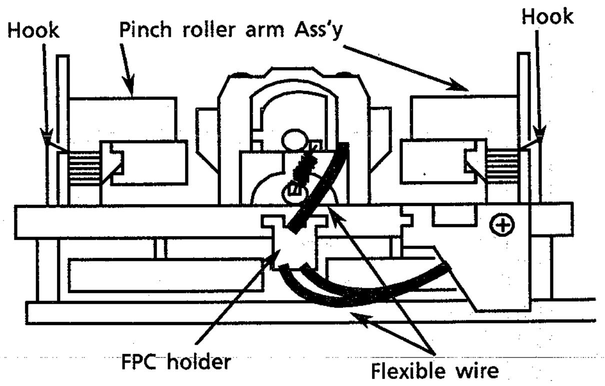

Hook
Pinch roller arm Ass'y
Hook
FPC holder
Flexible wire

Fig17 Cassette mechanism side view

(18)Fly wheel removal

1. Remove the cassette mechanism assembly.
2. Remove the cassette controller PCB.
3. Remove the 8 screws Ⓔ and the bracket

* The oil on the capstan must be wiped out after re-assembling.

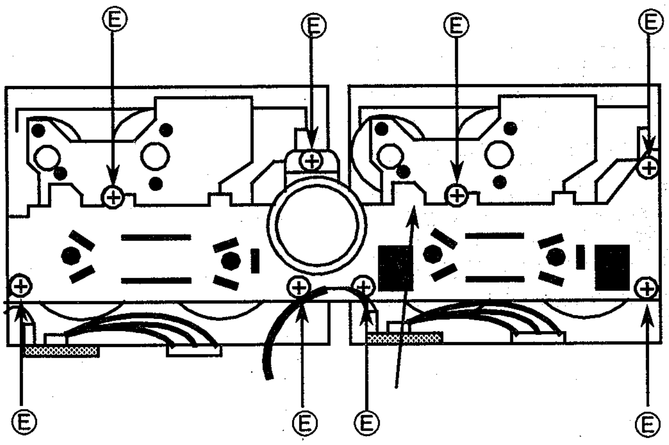


Fig 18 Cassette mechanism bottom view

(19) Fly wheel assembly

1. Install the beltB of bossA ,next install the beltA as shown in fig 19 up side.
2. Assemble the d the bracket with the capstan motor.
3. Hang the beltB of the motor pulley using a tweezers and the like as shown in fig 19 down side .

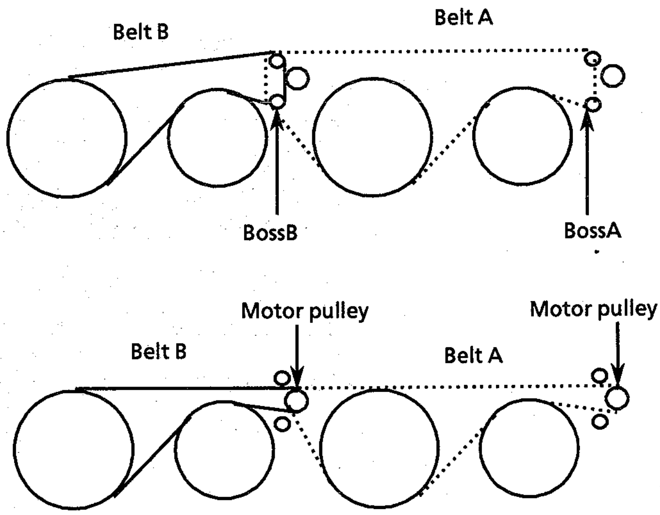

Belt B
Belt A
BossB
BossA
Motor pulley
Motor pulley
Belt B
Belt A

Fig 19 Flay wheel view

Ⓐ .. SDSG3006M Ⓑ ... E73273-003

(20) Reel and cam motor removal

1. Remove the cassette mechanism assembly.
2. Remove the cassette controller PCB.
3. Remove the (15).
4. Remove the 2screwsⒾ and 2screwsⒿ.
5. Unsolder the reel and cam motor PCB .
6. Remove thr motor .

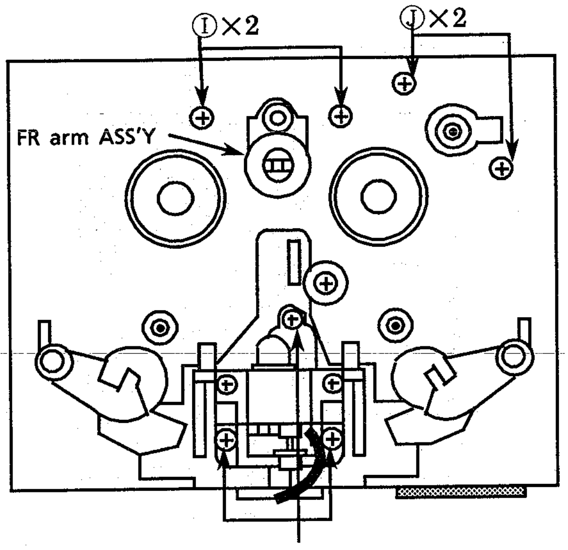


Fig 20 Cassette mecha Top view

(21) Cam SW PCB removal

1. Remove the (18).
2. Remove the reel and cam motor PCB.
3. Remove the screw and hooks fixing the PCB to remove the Cam SW .
   When assembling the cam switch ,install it so that the part Ⓝmeets the part ◎.

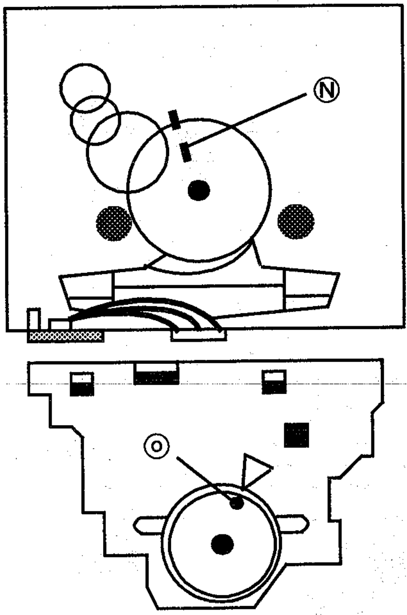


Fig 21 AMP PCB view

(22) Cassette controll PCB(ENJ-083)removal.

1. Remove the (1)(2)and (5).
2. Disconnect the 4 J303,J304.
3. Remove the 2screws Ⓖholding the Cassette controll PCB.
4. Remove the Cassette controll PCB.

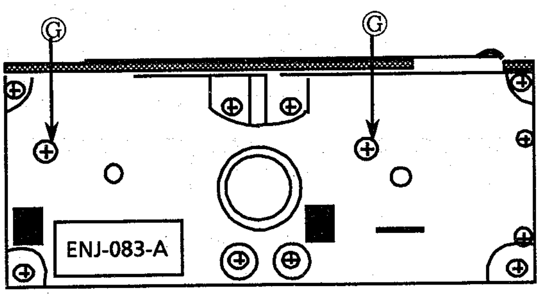


Fig 22 Cassette mechanisum Bottom view

(23) Head assembly removal

1. Remove the cassette mechanisum assembly.
2. Remove the FPC wire to the Cassette controll PCB.
3. Remove the 3 screws Ⓗ holding the Cassette controll PCB.

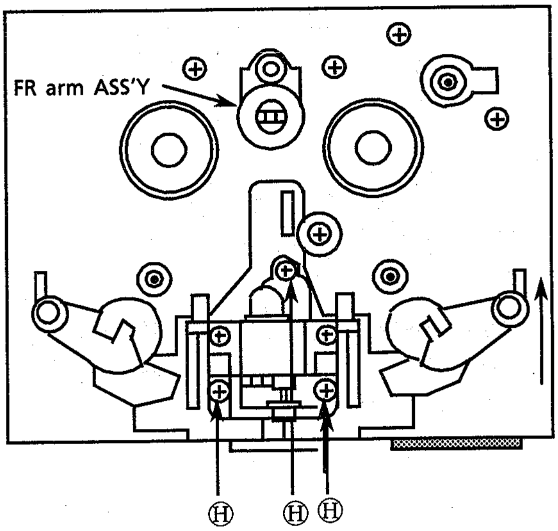


Fig 23 Front panel rear view

© .. SPST2604Z Ⓓ ... SBST3006M Ⓔ ... SDSF2608Z

(24) CD mechanism removal

1. Remove the (1)(2)and (5).
2. Remove the screw Ⓕ.
3. Tune the screw located under the mechanism to remove the tray out of the loading mecha.
4. Remove the tray.

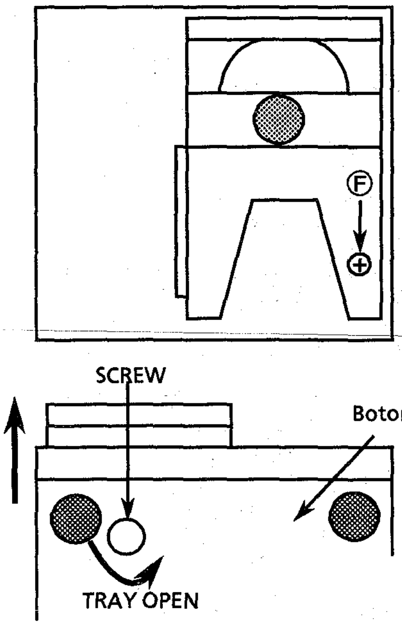

Ⓕ
SCREW
Botom side
TRAY OPEN

Fig 24 CD mechanism

(25) CD mecha Ass'y removal

1. Remove the (1),(2),(5).
2. Disconnect the P601.
3. Remove the 2 screws Ⓕto remove the clamp assembly .
4. Remove the 4 screws to remove the CD mecha Ass'y.

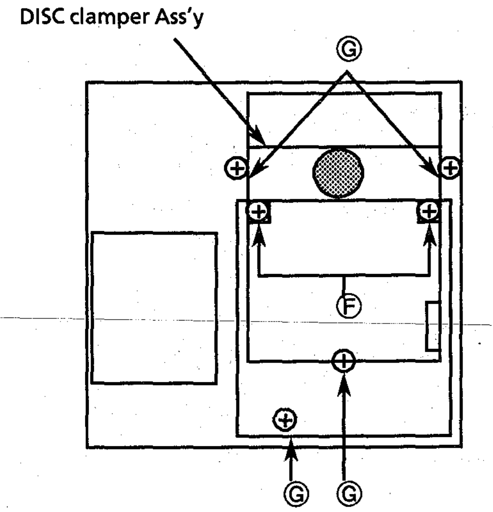

DISC clamper Ass'y
Ⓖ
Ⓕ
Ⓖ
Ⓖ

Fig 25 CD mechanism

(26) CD servo PCB removal

1. Remove the (1),(2),(6),(24),(25).
2. Remove the 3screws Ⓔholding the CD servo PCB.
3. Remove the CD servo PCB .

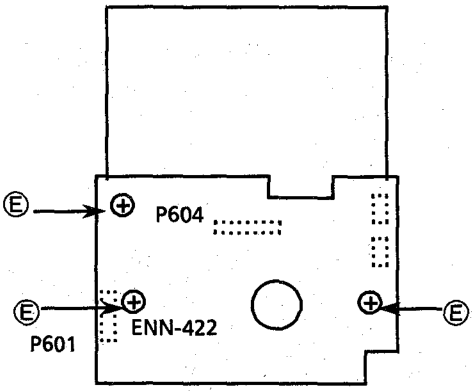

Ⓔ
P604
Ⓔ
P601
ENN-422
Ⓔ

Fig 10 CD mechanism botom view

(10) InstallingCD mecha. tray

1. Insert the CDmecha.tray after checking that the traverse mecha.is positioned slantingly.
2. If it is set horizontally,press the cam plate until it stops so that the traverse mech.slants.(See an arrow in the following figure.)

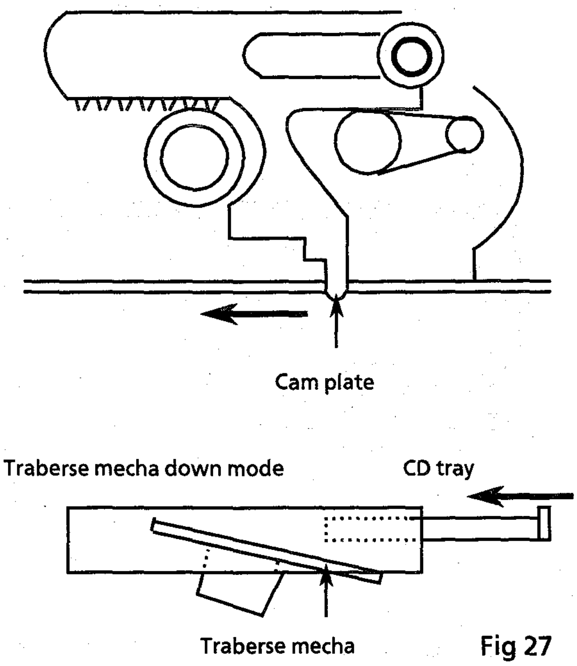

Cam plate
Traberse mecha down mode
CD tray
Traberse mecha

Fig 27

Ⓔ .. SDSF2608Z Ⓕ ... SBSF3008Z Ⓖ ... SBST3006Z

(28) Pickup removal

1. Remove the cd mechanism assembly.
2. Release the shaft to remove the pickup (Fig 28).

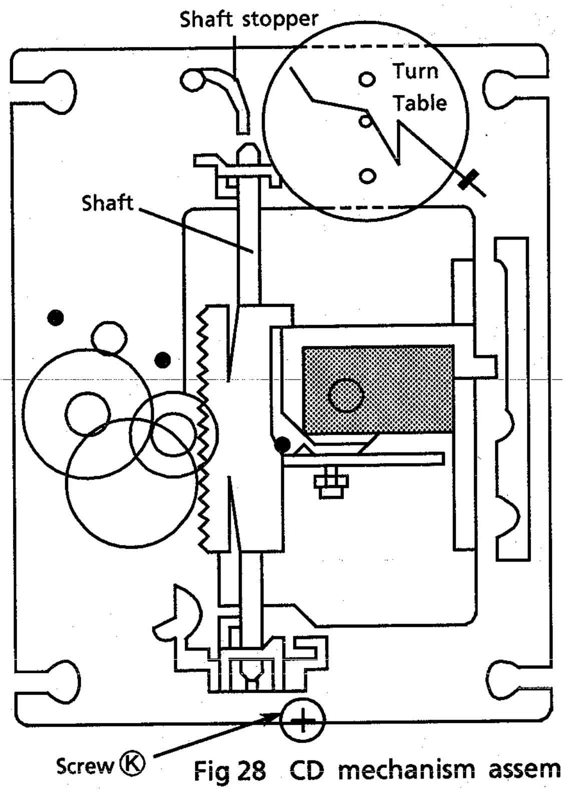


Fig 28 CD mechanism assembly

(30) Spindle motor installation

1. Tighten the 2 screws to the same torque.
2. Fasten the spindle and feed motor P.C. board with the screw and solder.
3. Install the turntable. When installing, press straight down at the center of the turntable until the distance from the surface of the mechanism base to the turntable is exactly 19.4±0.1mm.

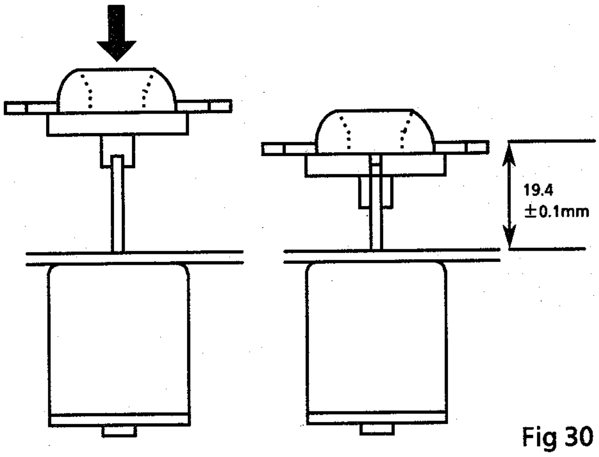


Fig 30

(29) Spindle motor removal

1. Remove the cd mechanism assembly.
2. Remove the turntable, and remove the two screws retaining the spindle motor.
3. Remove the screws retaining the spindle and feed motor P.C. Board and unsolder it.

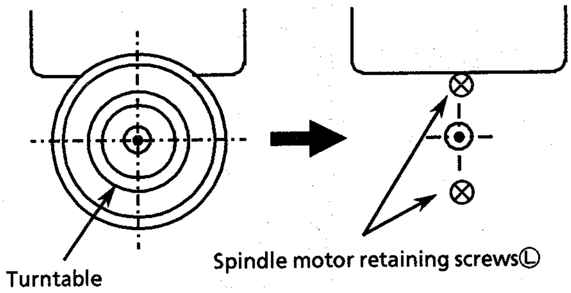


Fig 29

(31) After inserting the turntable, bond the motor shaft and turntable together (at the section marked by an arrow in fig 15 on the left below).

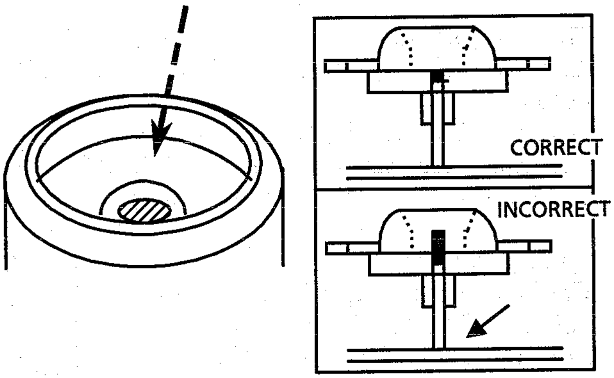


Fig 31

(32) Use "LOCKTITE" #460 bonding agent, and apply as little as possible. Take care not to allow any excess bonding agent to get onto the turntable. Be extremely careful not to allow bonding agent to adhere to the motor bearings (the section marked by an allow in fig 31 on the right).

Ⓚ .. E406293-001 Ⓛ ... SDSP2003N

Adjustment Procedures

■ Tuner section

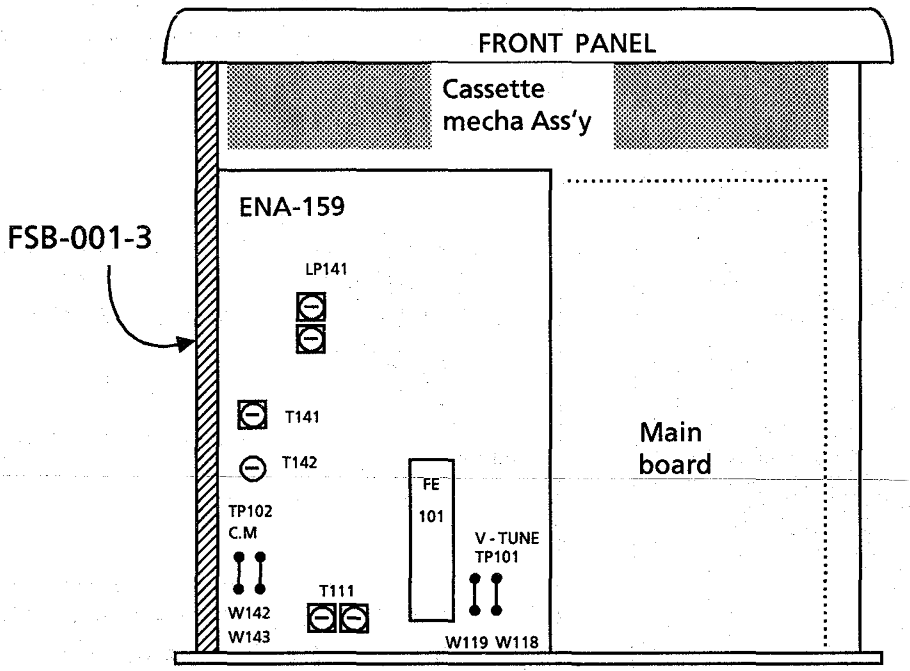

FRONT PANEL
Cassette mecha Ass'y
FSB-001-3
ENA-159
LP141
T141
T142
TP102
C.M
W142
W143
T111
FE
101
V-TUNE
TP101
W119 W118
Main board

Figure 1

(1) Clock Adjustment

1. After connecting W814(TEST) and W813(GND) with some wire, connect ac power cord into ac outlet.
2. Confirm that the display is off and remove the wire.
3. Connect a frequency counter to W812(F OUT) and W813.
4. Adjust TC801 so that the frequency becomes 50000±0.29Hz.

(2) Tuning voltage
Confirm the voltages in the table below at TP101. If the voltages are not satisfied, replace T101 for AM or FE101 for FM.

FM Tuning voltage (Unit : V)

Frequency	FM		AM	
	87.5MHz	108MHz	522kHz	1629KHz
Tuning voltage	1.6±1.0	8.0±2.0	1.0±0.2	7.5±0.8

(3) FM center meter

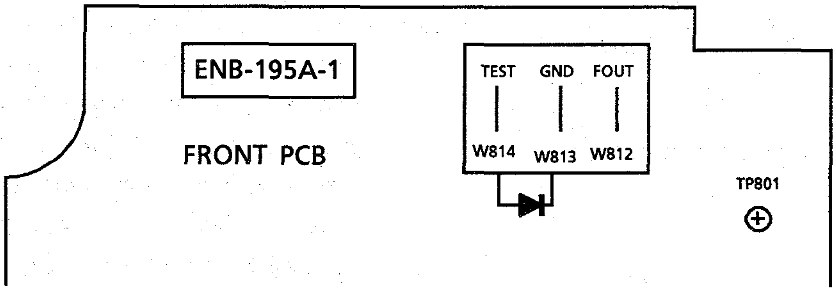

ENB-195A-1
FRONT PCB
TEST
GND
FOUT
W814
W813
W812
TP801

Figure 2

■ Deck section

■ Deck adjiustment point

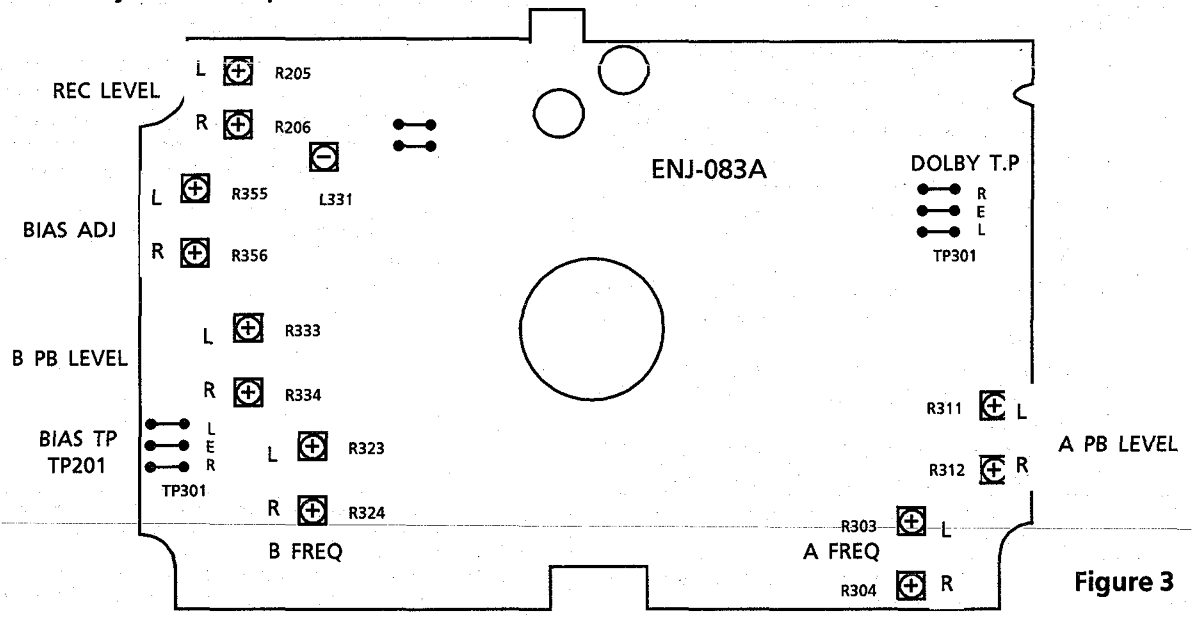

REC LEVEL
L R205
R R206
L331
ENJ-083A
DOLBY T.P
R
E
L
TP301
BIAS ADJ
L R355
R R356
B PB LEVEL
L R333
R R334
BIAS TP
TP201
L
E
R
TP301
L R323
R R324
B FREQ
R311 L
R312 R
A PB LEVEL
R303 L
A FREQ
R304 R

Figure 3

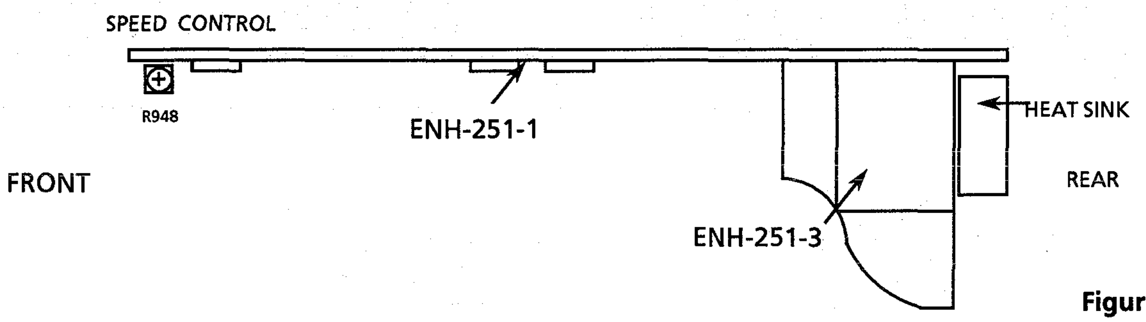

SPEED CONTROL
R948
ENH-251-1
FRONT
HEAT SINK
REAR
ENH-251-3

Figure 4

1. Measuring instruments

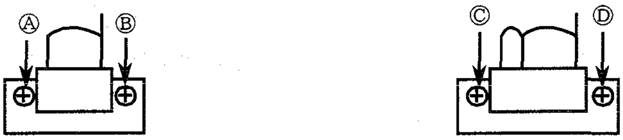
Audio frequency signal generator (0dbs output at the 600 ohm output terminal from 50Hz to 20KHz)
Electronic voltmeter
Frequency counter
Wow & Flutter meter
Distortion Meter with band pass filter
Attenuator (600 ohm impedance)
A resistor with 600Ω

Standard Tape **0dBs=0.775V**

Tape No.	Frequency	Level (Wow & Flutter)	Purpose
VTT-703L	10kHz	−10dBs	Head azimuth , Frequency Response
VTT-712	3000Hz	0dBs 0.025%WRMS	Tape Speed , Wow & Flutter
VTT-724	1kHz	−4dBs	Standard Level
TMT-6447	—	—	Blunk Skip
TMT-6247 , TMT-6237	—	—	Music Scan
TS-8	—	—	Recording standard Normal : UR
TS-11	—	—	Recording standard METAL : MA
TS-10	—	—	Recording standard CrO_2 : SA
GTG-N (CT-100M)	—	—	Forward / reverse play torque measuring
TW-2231	—	—	Feed forward / rewind torque measuring
C-120 Tape	—	—	Comfirming the tape running

2. Adjustment and repairing the mechanism

Item	Adjustment method	Standard value	Remarks
Head azimuth	Deck A 1. Connect an electronic voltmeter to the DOLBY TP(figure 1) to playback VTT-703L. 2. Adjust screw Ⓐ so that the indication of the voltmeter becomes maximum when PLAY (▶) is pressed. 3. Adjust screw Ⓑ so that the indication of the voltmeter becomes maximum when PLAY (◀) is pressed. Deck B 4. Adjust screw Ⓒ so that the indication of the voltmeter becomes maximum when PLAY (▶) is pressed. 5. Adjust screw Ⓓ so that the indication of the voltmeter becomes maximum when PLAY (◀) is pressed. 6. After making the adjustment,apply screw lock to prevent screws Ⓐ, Ⓑ, Ⓒ and Ⓓ coming loose.	Maximum	1. **Refer to figure 5.** 2. When the specified characteristic cannot be obtained because of head wear, excessive magnetization, etc., replace the head assembly and adjust the head azimuth. Also, perform the electric adjustment. 3. When there is the difference of more than 3 ~ 4 dB between left and right output levels, replace the head assembly to avoid complaints.
Playback torque	1. Measure the torque in the playback mode by the torqu meter.	26 ~ 62 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Fast forward torque	1. Measure the torque in the fast forward mode by the torqu meter.	80 ~ 170 g-cm	When the standard torque cannot be obtained,replace the FR arm assembly or motor.
Wow & flutter	1. Connect the wow & flutter meter to the DOLBY TP(figure 1) and play back VTT-712. 2. Its reading should be within 0.2% (WRMS).	Less than 0.2%	As a complaint may occur if the wow & flutter fluctuates by 0.1% even though it is allowed in the standard, repairing is required.
Auto stop			



Deck A

Deck B

Figure 5

3. Electrical Adjustments

(Make the following adjustments after adjusting the head azimuth.)

In principle, the adjustments should be made in the following sequence.

Set the NR switch to OFF and the BEAT CUT switch to "1".

Adjustments marked with an asterisk (*) should always be made after the head is replaced

0dBs=0.775V

	Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
1	Tape Speed	1. Connect a frequency counter to the DOLBY TP(figure 1) and play back VTT-712. 2. Normal speed Adjustment 1) Mechanism B Play back deck B to adjust the semi-fixed resistor R948. 2) Mechanism A Play back deck A to confirm that the difference between deck A and deck B is within ±51Hz.	R948	3,000 Hz ±10Hz	1) Adjust the normal speed first, and perform the high speed adjustment.

	Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
* 2	Standard level (Playback Level)	1. Connect an electronic voltmeter to the DOLBY TP (figure 1). Play back VTT-724 (1 kHz : −4dBs) to adjust the semi-fixed resistors.	**Deck A** L: R311 R: R312 **Deck B** L: R333 R: R334	−5.5dBs (411mV) ±1dB	1) The playback level varies when the head is replaced so should be adjusted. Use an electronic voltmeter with an impedance of 100 kΩ or more.
* 3	Playback Frequency Response	1. Connect an electronic voltmeter to the DOLBY TP (figure 1). 2. Play VTT-703L (10kHz : −10dBs) and adjust semi-fixed resistors to obtain the standard values.	**Deck A** L: R303 R: R304 **Deck B** L: R323 R: R324	−11.5dBs (206mV) ±3dB	—
* 4	Recording Bias Frequency	1. Connect a frequency counter to the BIAS TP(figure 1), and perform a recording to adjust bias frequency.	L331	100 kHz +10kHz -5kHz	—
* 5	Record / Play Frequency Response (Bias current)	1. Supply 1kHz and 12.5kHz with 30mV signals to PHONO/AUX terminals respectively to record them. 2. Connect an electronic voltmeter to the DOLBY TP (figure 1) to confirm the recorded values. 3. If the values are not satisfied, adjust the semi-fixed resistors and record the signal again to confirm the recorded values.	L : R355 R : R356	0±2 dB with 1 kHz as the standard.	**Refer to figure 6 below.** 1) The recording and playback frequency response of a cassette deck are adjusted by adjusting the bias. 2) Perform the adjustment with normal tape and confirm that the values are within the range for metal tape.
* 6	Record / Playback Sensitivity	1. Input a 1 kHz (−8.2dBs: 300mV) signal to PHONO / AUX terminals and record it on the left and right channels. 2. Connect an electronic voltmeter to the DOLBY TP (figure 1) to confirm the recorded values. 3. If the values are not satisfied, adjust the semi-fixed resistors and record the signal again to confirm the recorded values.	L : R205 R : R206	−5.5dBs (411mV) ±1dB	Adjust with normal tape and make sure that the left / right level difference is 1.0dB or less
* 7	Erase ratio check	1. Record a music source using the Metal tape. 2. Rewind and erase the recorded section. 3. Comfirm nothing can be heard.	—	—	—
* 8	Music Scan	1. Make sure not to work the music scanning operation at the start of tape wind using TMT-6237. 2. Make sure to work the music scanning operation at the end of tape wind using TMT-6247.	—	—	—

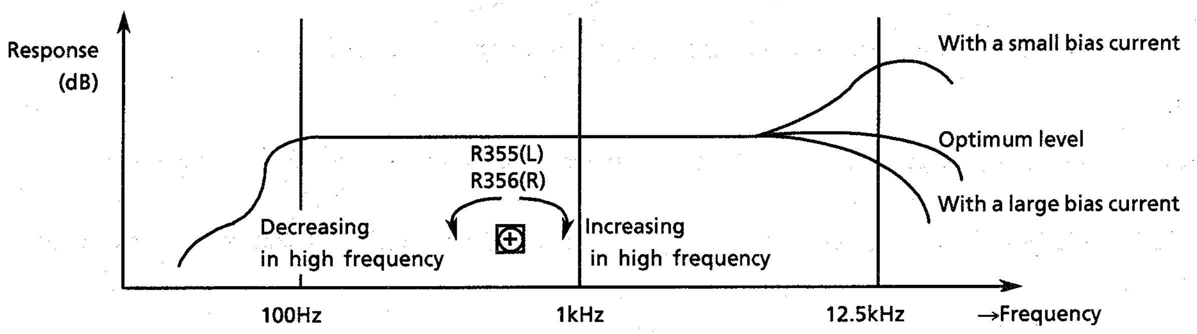


Figure 6

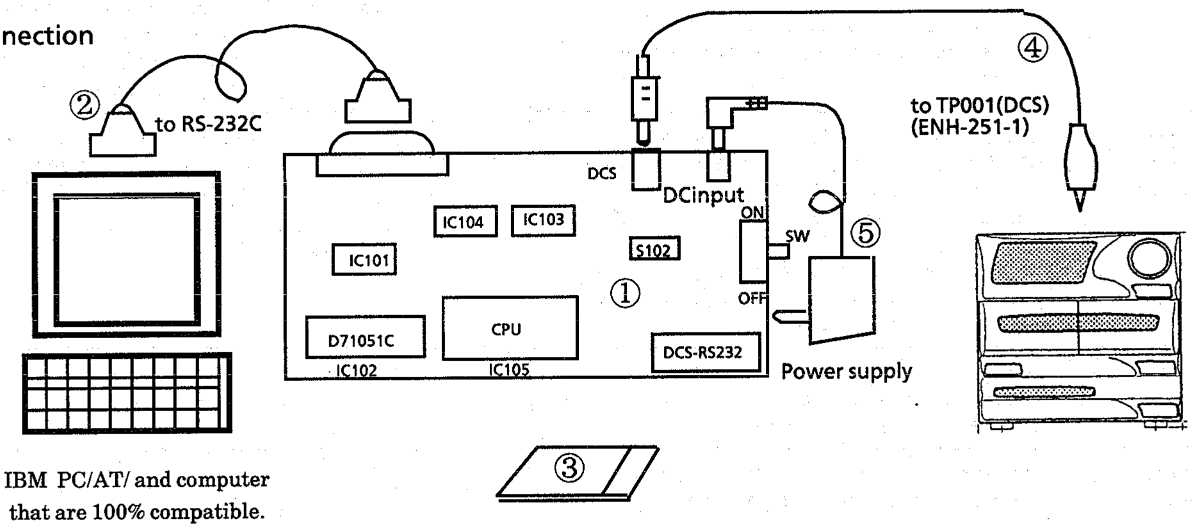
Self-diagnosis for pickup

From DCS output, this model reads automatically adjusted data for CD so that the pickup can be judged defective or not. Following shows its details.

1. Necessary items

① DCS → 232C Converting board(No.EBSJ1019)
② 232C cord (straight)
③ Floppy disc for self-diagnosis (No.EBSJ1021)
④ DCS cord
⑤ Power supply DC 6.3V (AA-SV11J--America/Canada) (AA-SV11Bs--the UK) (AA-SV11G--Germany) (AA-SV11EF--Continental Europe) (AA-SV11U--Universal type)
⑥ CD (without scratches or damage)

2. Connection


②
to RS-232C
DCS
DCinput
ON
SW
OFF
IC104
IC103
IC101
S102
①
D71051C
IC102
CPU
IC105
DCS-RS232
⑤
Power supply
④
to TP001(DCS)
(ENH-251-1)
③
IBM PC/AT/ and computer
that are 100% compatible.

For this diagnosis, a device driver for RS232C cord (straght type) is necessary.

(Ex.) C :¥DOS MODE COM 1 : 9600 , N , 8 , 1

adapter number(1or2) band rate parity data bit stop bit

3. Procedure

① Turn the converting board's switch on after connecting between CA-S200 and the above neccesary items
Set S102(switching DCS positive from/to negative logic) so that GREEN can emit red(positive logic).

② Put a disc on the tray and close it to read TOC.
Do not press the play button.

③ Input "AUTO 01" on personal computer's keyboard and the CD's automatic adjustment value and judgment for the pickup are displayed on the screen.

4. Judgment

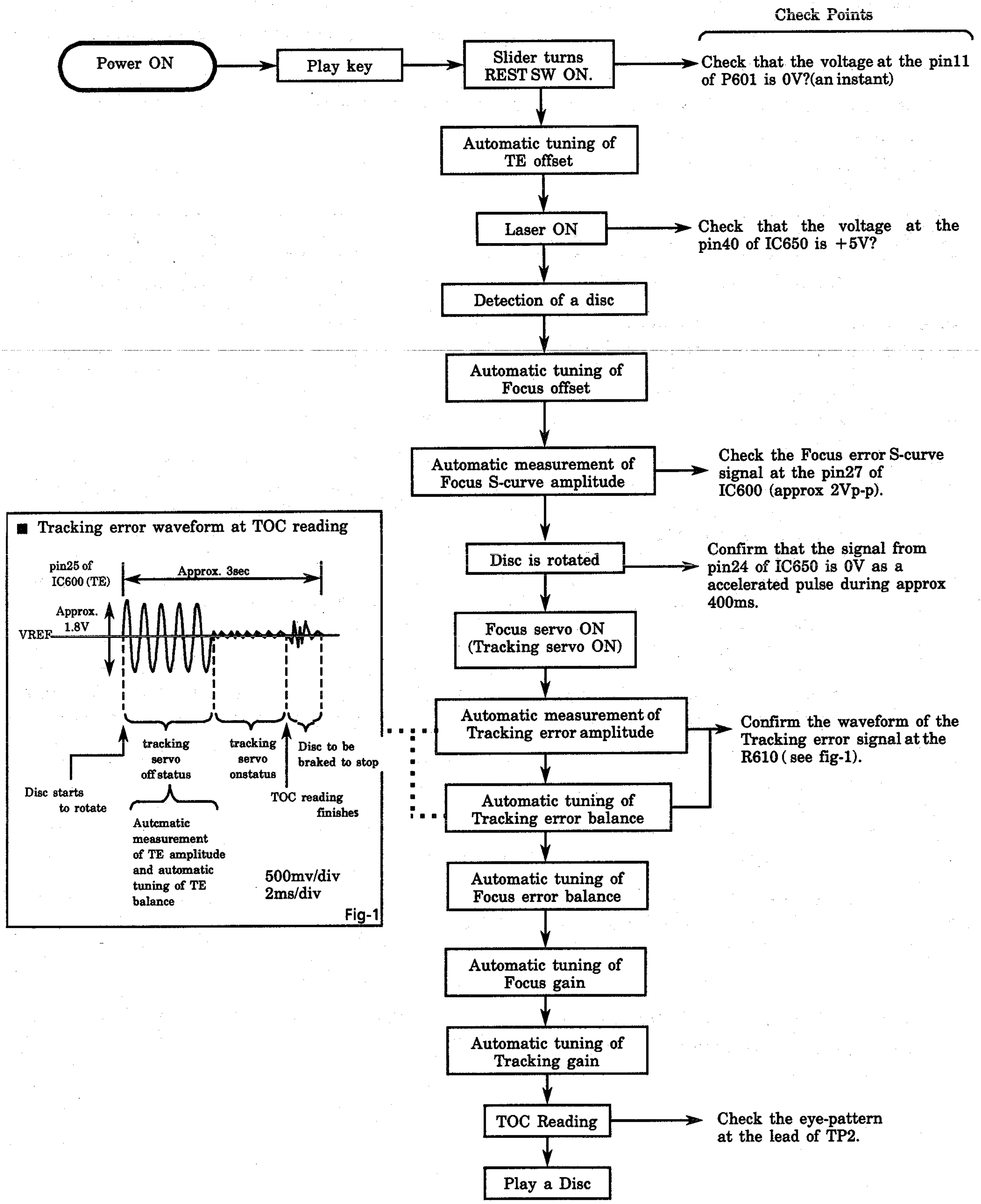
To judge whether pickup is defective or not, firstly process of automatic adjustment is checked by automatic adjustment flag. And, the value(automatic adjustment value for focus gain) displayed on the screen is used for its final judgment.

It is supposed that the pickup is defective or the signal path is faulty if the Flag1 or Flag0 indicates not "F" but a figure.
(See the following example.)

Flag1	Flag0	Details	Supposed cause
0	0	Automatic adjustment for tracking offset is failed.	The automatic adjustment is not completed. (Trouble in circuit.)
0	1	Automatic adjustment for focus offset is failed. (Disc does not rotate.)	The lens does not move. (Power supply is not turned on. Wire is cut.)
0	3	Automatic rough adjustment for focus gain is failed.	
0	7	Automatic rough adjustment for tracking gain is failed. (The focus and tracking gain are not locked though the disc rotates.)	Laser deterioration (low RF signal output). Offset beam.
0	F	Disc rotates, focus and tracking gain are locked and automatic rough adjustment for tracking gain is also completed though automatic adjustment for tracking balance is failed.	Laser deterioration (low RF signal output). Offset beam.
1	F	Automatic adjustment for focus balance is failed. (TOC is not read tough the disc rotates.)	RF signal output is low. Tracking loop is not turned on. RF jitter is too much.
3	F	Automatic rough adjustment for focus gain is failed.	
7	F	Automatic rough adjustment for tracking gain is failed.	
F	F	All automatic adjustments are completed.	

The pickup is judged defective though the Flag0 and Flag1 indicate "F" and those adjustments are completed if the adjustment value exceeds 19dB.

Flow of Functional Operation Until TOC is Read

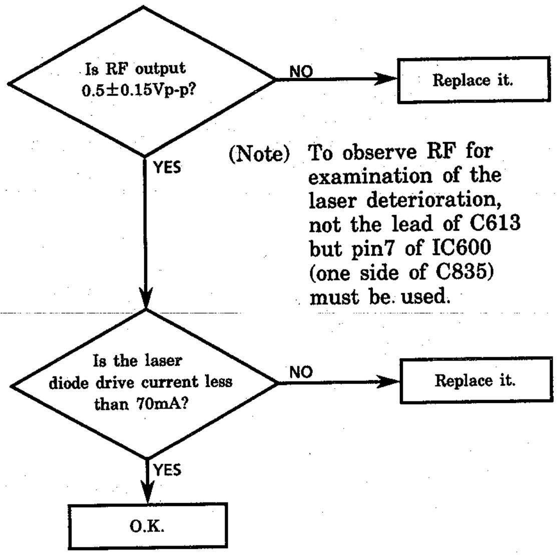

Check Points
Power ON
Play key
Slider turns REST SW ON.
Check that the voltage at the pin11 of P601 is 0V?(an instant)
Automatic tuning of TE offset
Laser ON
Check that the voltage at the pin40 of IC650 is +5V?
Detection of a disc
Automatic tuning of Focus offset
Automatic measurement of Focus S-curve amplitude
Check the Focus error S-curve signal at the pin27 of IC600 (approx 2Vp-p).
Disc is rotated
Confirm that the signal from pin24 of IC650 is 0V as a accelerated pulse during approx 400ms.
Focus servo ON (Tracking servo ON)
Automatic measurement of Tracking error amplitude
Confirm the waveform of the Tracking error signal at the R610 (see fig-1).
Automatic tuning of Tracking error balance
Automatic tuning of Focus error balance
Automatic tuning of Focus gain
Automatic tuning of Tracking gain
TOC Reading
Check the eye-pattern at the lead of TP2.
Play a Disc
■ Tracking error waveform at TOC reading
pin25 of IC600 (TE)
Approx. 3sec
Approx. 1.8V
VREF
tracking servo off status
tracking servo onstatus
Disc to be braked to stop
Disc starts to rotate
TOC reading finishes
Autcmatic measurement of TE amplitude and automatic tuning of TE balance
500mv/div
2ms/div
Fig-1

Maintenance of Laser Pickup

(1) Life of the laser diode

When the life of the laser diode has expired, the following symptoms will appear.

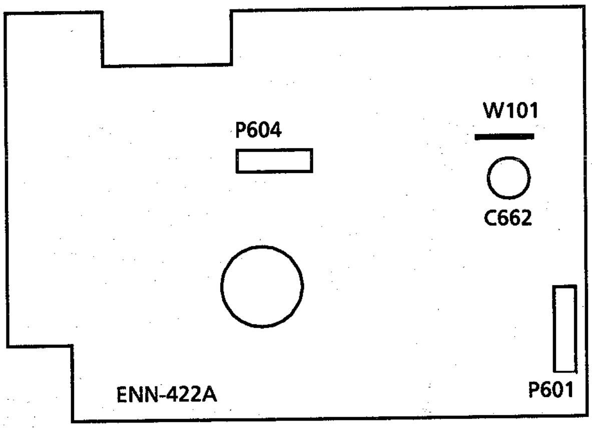
1. The level of RF output (EFM output: ampli tude of eye pattern) will be low.
2. The drive current required by the laser diode will be increased. In such a case, check the life of the laser diode following the flowchart below.



(Note) To observe RF for examination of the laser deterioration, not the lead of C613 but pin7 of IC600 (one side of C835) must be used.

(2) Measurement of laser diode drive current

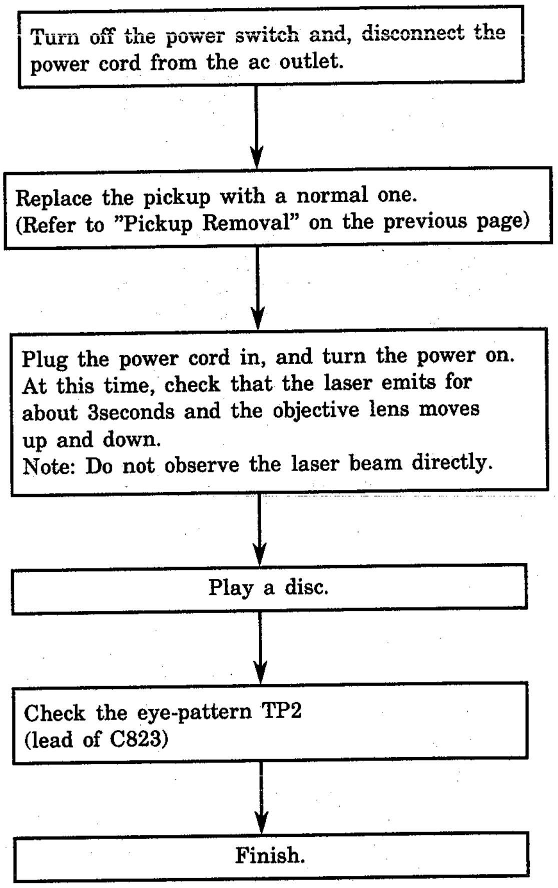
Replace the jump wire (W101) shown below with the resistor (1Ω). Measure the voltage across the resistor (1Ω) with a milli-voltmeter. When the voltage is more than 70mV, it shows that the life of the laser diode has expired.



(3) Semi-fixed resistor on the APC PC board

The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor. If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced. If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

Replacement of Laser Pickup



Turn off the power switch and, disconnect the power cord from the ac outlet.

Replace the pickup with a normal one.
(Refer to "Pickup Removal" on the previous page)

Plug the power cord in, and turn the power on.
At this time, check that the laser emits for about 3seconds and the objective lens moves up and down.
Note: Do not observe the laser beam directly.

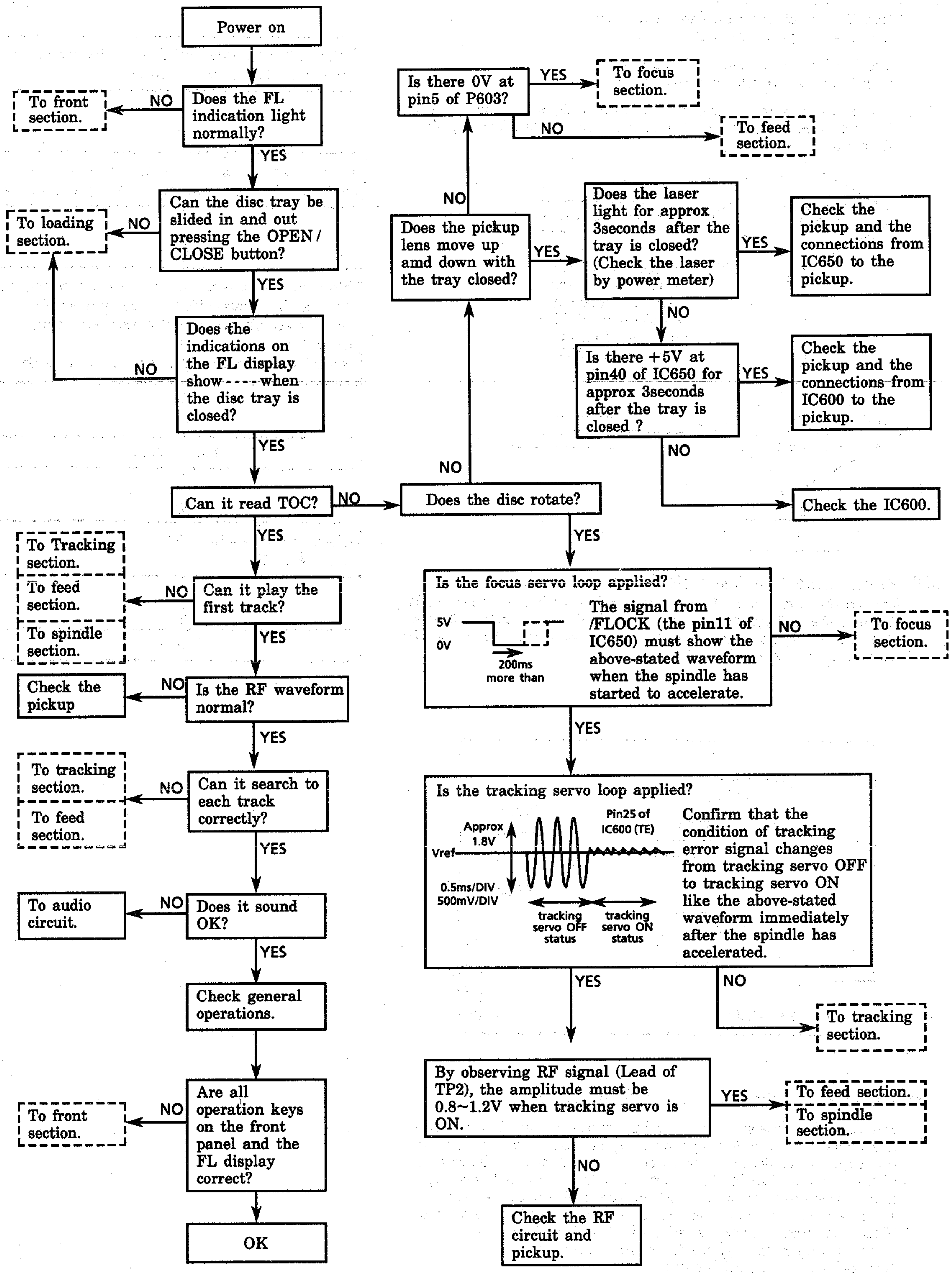
Play a disc.

Check the eye-pattern TP2
(lead of C823)

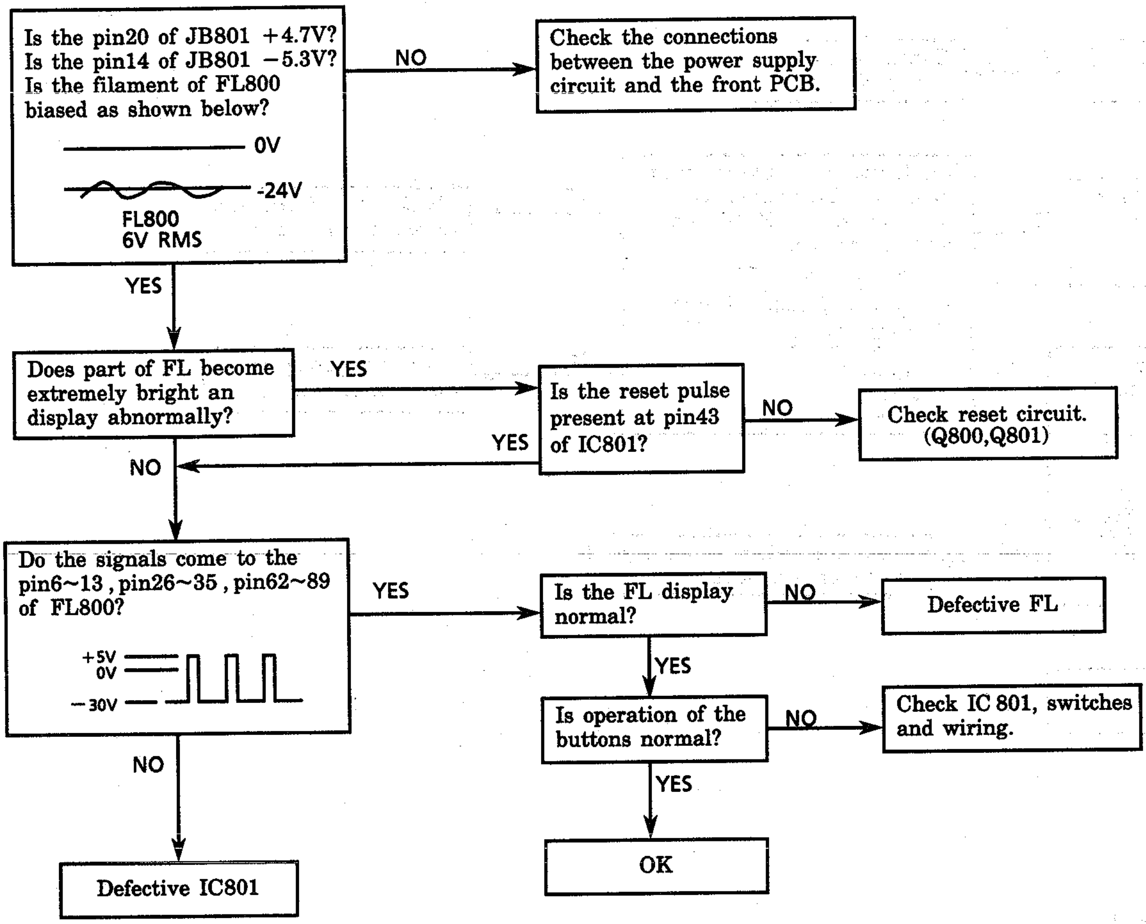
Finish.

Troubleshooting

The following shows the status of the various circuits from turning on the power to the start of disc play.

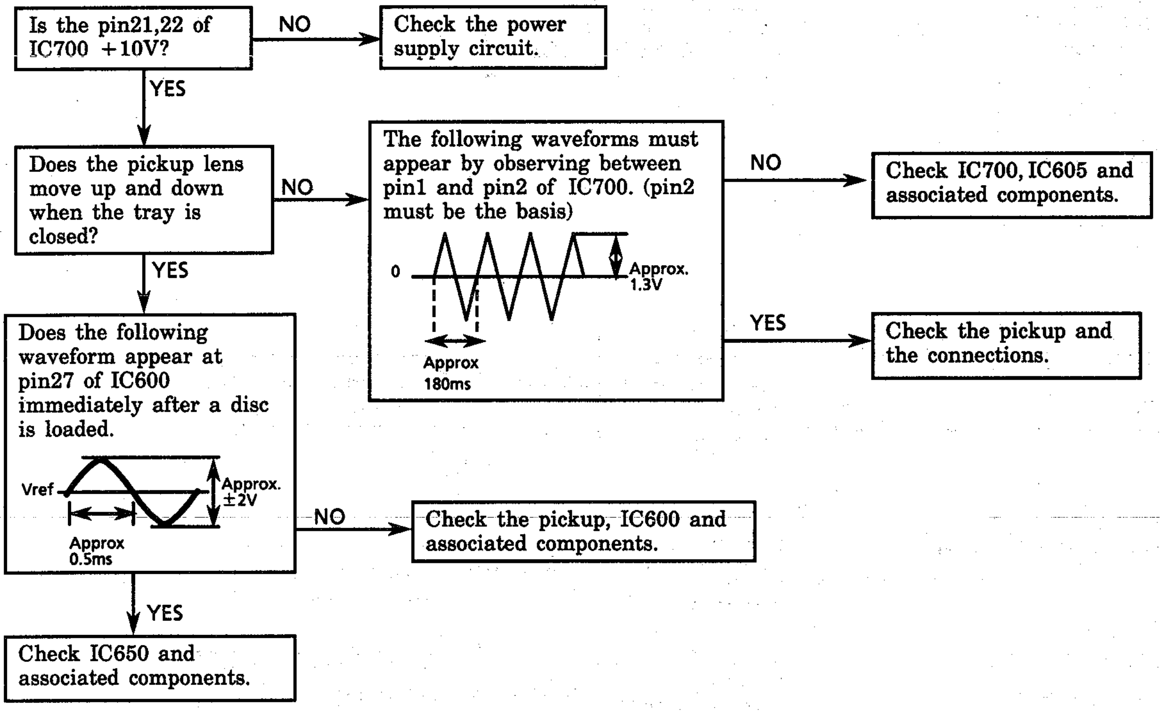

Power on
Does the FL indication light normally?
NO
To front section.
YES
Can the disc tray be slided in and out pressing the OPEN / CLOSE button?
To loading section.
Does the indications on the FL display show - - - - when the disc tray is closed?
Can it read TOC?
Does the disc rotate?
Does the pickup lens move up amd down with the tray closed?
Is there 0V at pin5 of P603?
To focus section.
To feed section.
Does the laser light for approx 3seconds after the tray is closed? (Check the laser by power meter)
Check the pickup and the connections from IC650 to the pickup.
Is there +5V at pin40 of IC650 for approx 3seconds after the tray is closed ?
Check the pickup and the connections from IC600 to the pickup.
Check the IC600.
To Tracking section.
To feed section.
To spindle section.
Can it play the first track?
Check the pickup
Is the RF waveform normal?
To tracking section.
To feed section.
Can it search to each track correctly?
To audio circuit.
Does it sound OK?
Check general operations.
To front section.
Are all operation keys on the front panel and the FL display correct?
OK
Is the focus servo loop applied?
5V
0V
200ms more than
The signal from /FLOCK (the pin11 of IC650) must show the above-stated waveform when the spindle has started to accelerate.
To focus section.
Is the tracking servo loop applied?
Approx 1.8V
Vref
0.5ms/DIV
500mV/DIV
Pin25 of IC600 (TE)
tracking servo OFF status
tracking servo ON status
Confirm that the condition of tracking error signal changes from tracking servo OFF to tracking servo ON like the above-stated waveform immediately after the spindle has accelerated.
To tracking section.
By observing RF signal (Lead of TP2), the amplitude must be 0.8~1.2V when tracking servo is ON.
To feed section.
To spindle section.
Check the RF circuit and pickup.

Front Section


Is the pin20 of JB801 +4.7V?
Is the pin14 of JB801 −5.3V?
Is the filament of FL800 biased as shown below?
0V
-24V
FL800
6V RMS
NO
Check the connections between the power supply circuit and the front PCB.
YES
Does part of FL become extremely bright an display abnormally?
YES
Is the reset pulse present at pin43 of IC801?
NO
Check reset circuit. (Q800,Q801)
YES
NO
Do the signals come to the pin6~13 , pin26~35 , pin62~89 of FL800?
+5V
0V
−30V
YES
Is the FL display normal?
NO
Defective FL
YES
Is operation of the buttons normal?
NO
Check IC 801, switches and wiring.
YES
OK
NO
Defective IC801

Focus section

Note) When checking the voltages between pin1 and pin2 of IC700 with an oscilloscope, do not connect the other probes.


NO
YES
NO
YES
NO
YES
0
Approx. 1.3V
Approx 180ms
Vref
Approx. ±2V
Approx 0.5ms
NO
YES

Is the pin21,22 of IC700 +10V?

Check the power supply circuit.

Does the pickup lens move up and down when the tray is closed?

The following waveforms must appear by observing between pin1 and pin2 of IC700. (pin2 must be the basis)

Check IC700, IC605 and associated components.

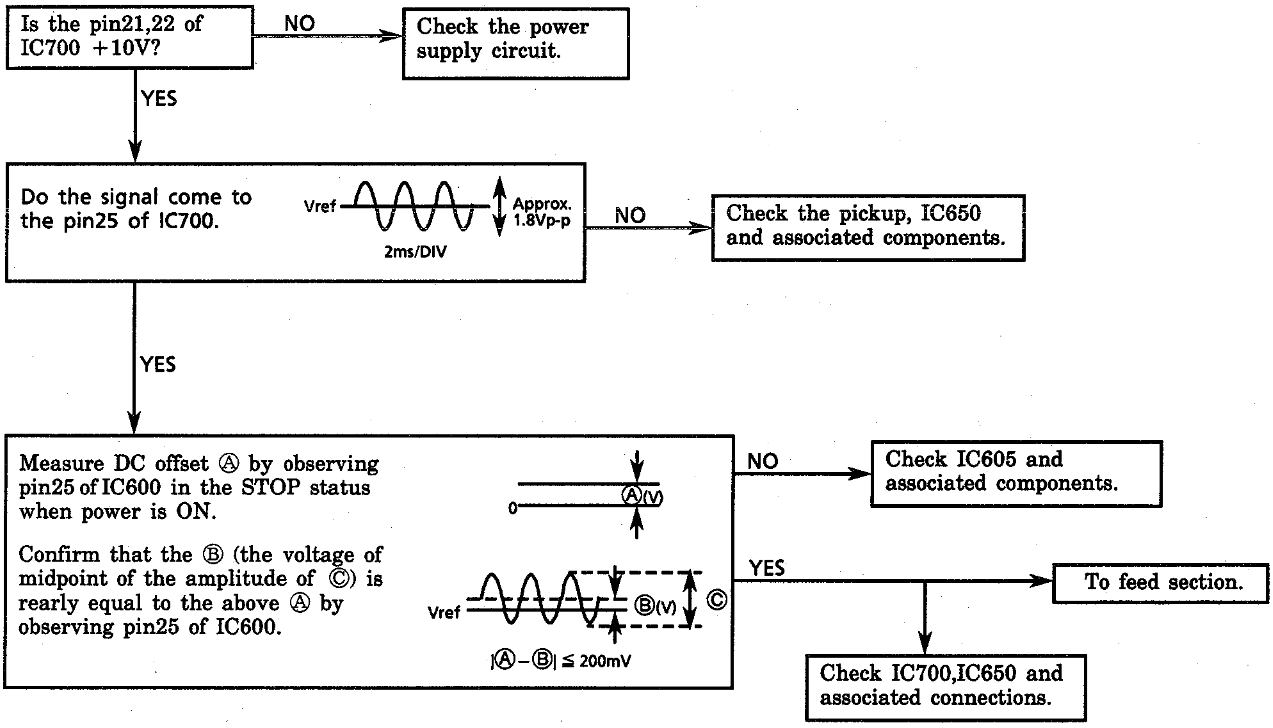
Check the pickup and the connections.

Does the following waveform appear at pin27 of IC600 immediately after a disc is loaded.

Check the pickup, IC600 and associated components.

Check IC650 and associated components.

Tracking section


NO
YES
Vref
Approx. 1.8Vp-p
2ms/DIV
NO
YES
NO
0
Ⓐ(V)
Vref
Ⓑ(V)
Ⓒ
|Ⓐ−Ⓑ| ≦ 200mV
YES

Is the pin21,22 of IC700 +10V?

Check the power supply circuit.

Do the signal come to the pin25 of IC700.

Check the pickup, IC650 and associated components.

Measure DC offset Ⓐ by observing pin25 of IC600 in the STOP status when power is ON.

Confirm that the Ⓑ (the voltage of midpoint of the amplitude of Ⓒ) is rearly equal to the above Ⓐ by observing pin25 of IC600.

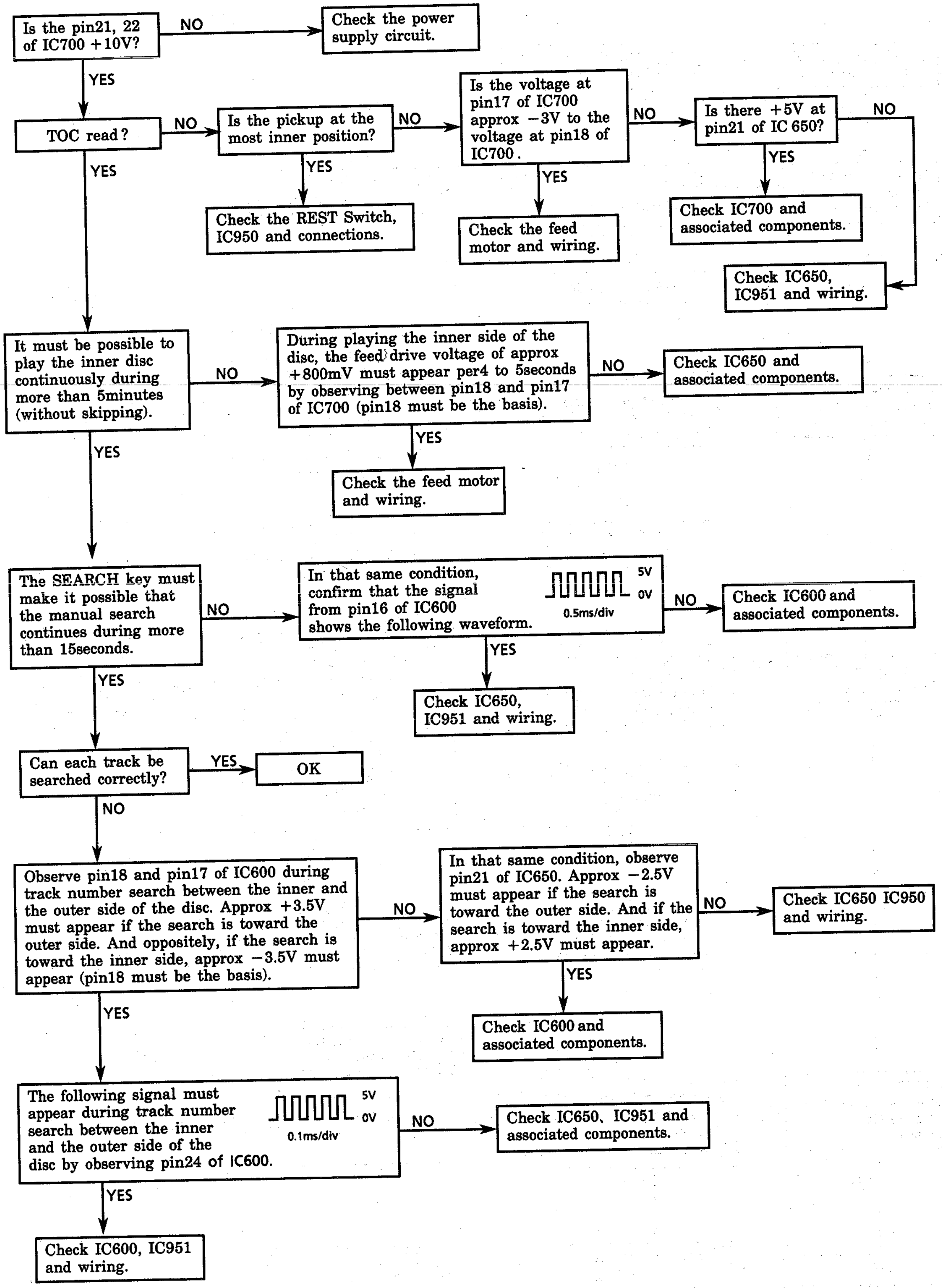
Check IC605 and associated components.

To feed section.

Check IC700,IC650 and associated connections.

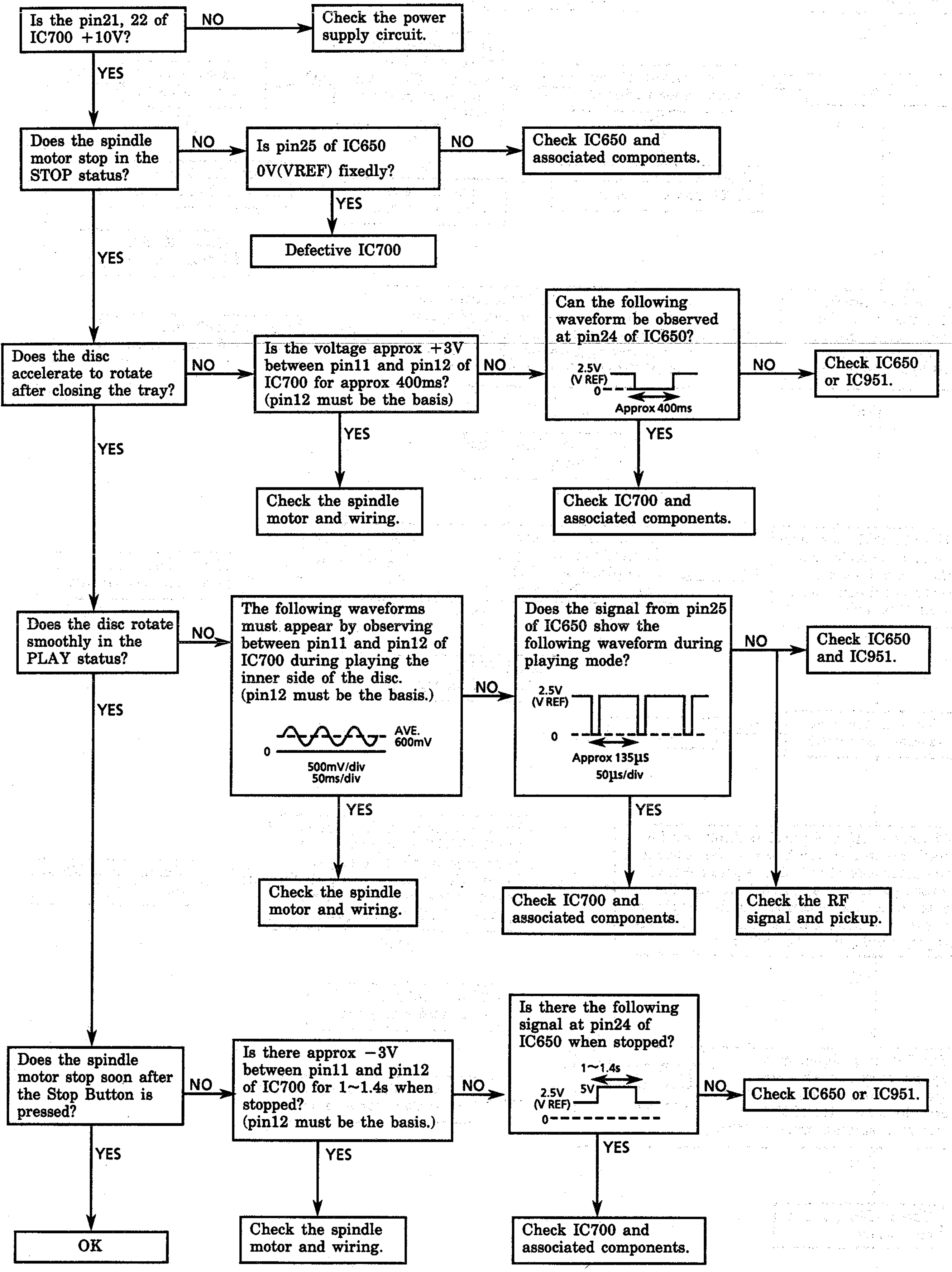
Feed section

Note) When checking the voltages between pin18 and pin17 of IC700 with an oscilloscope, do not connect the other probes.

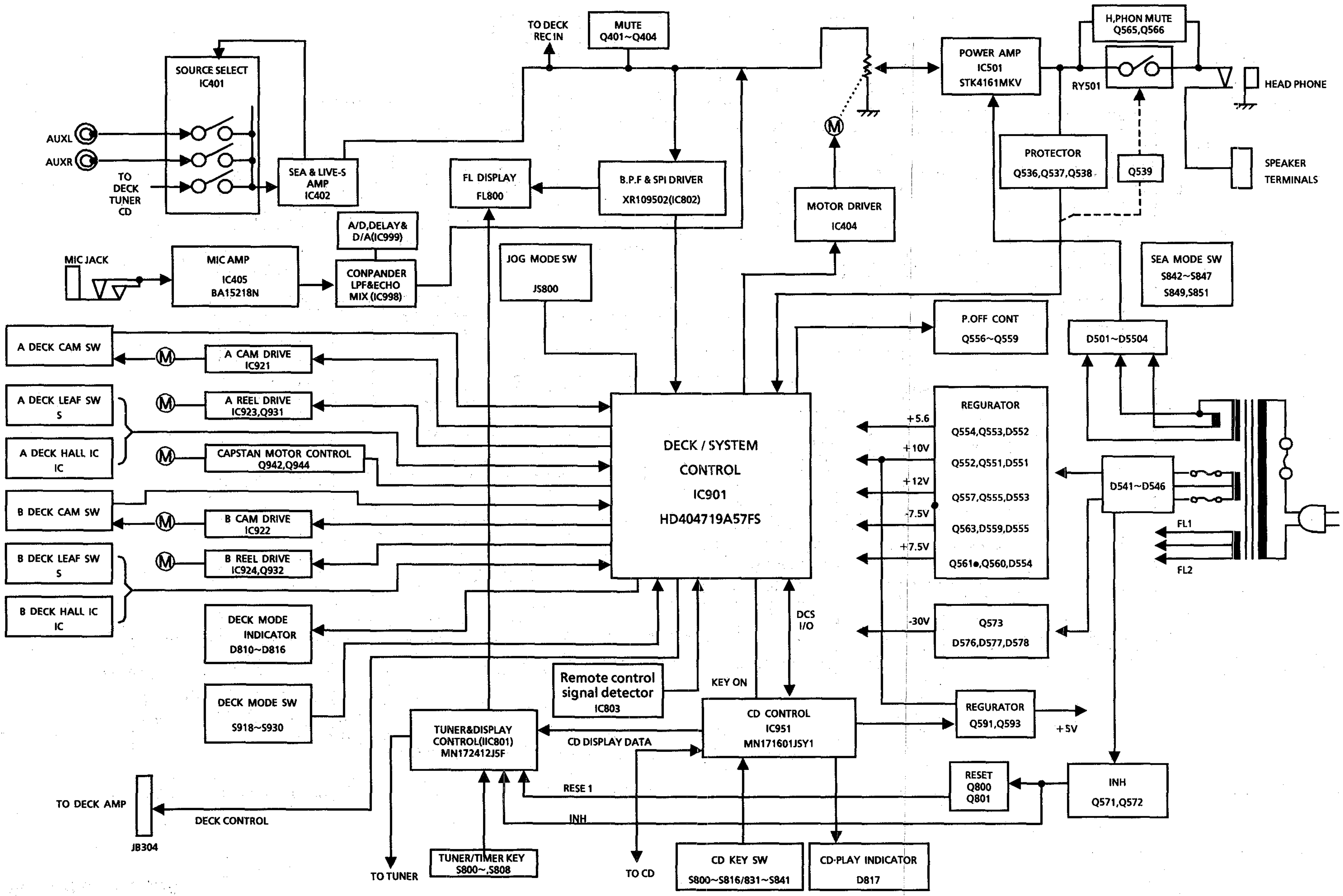

Is the pin21, 22 of IC700 +10V?
NO
Check the power supply circuit.
YES
TOC read?
NO
Is the pickup at the most inner position?
NO
YES
Check the REST Switch, IC950 and connections.
Is the voltage at pin17 of IC700 approx −3V to the voltage at pin18 of IC700.
NO
YES
Check the feed motor and wiring.
Is there +5V at pin21 of IC 650?
NO
YES
Check IC700 and associated components.
Check IC650, IC951 and wiring.
YES
It must be possible to play the inner disc continuously during more than 5minutes (without skipping).
NO
During playing the inner side of the disc, the feed drive voltage of approx +800mV must appear per4 to 5seconds by observing between pin18 and pin17 of IC700 (pin18 must be the basis).
NO
Check IC650 and associated components.
YES
Check the feed motor and wiring.
YES
The SEARCH key must make it possible that the manual search continues during more than 15seconds.
NO
In that same condition, confirm that the signal from pin16 of IC600 shows the following waveform.
5V
0V
0.5ms/div
NO
Check IC600 and associated components.
YES
Check IC650, IC951 and wiring.
YES
Can each track be searched correctly?
YES
OK
NO
Observe pin18 and pin17 of IC600 during track number search between the inner and the outer side of the disc. Approx +3.5V must appear if the search is toward the outer side. And oppositely, if the search is toward the inner side, approx −3.5V must appear (pin18 must be the basis).
NO
In that same condition, observe pin21 of IC650. Approx −2.5V must appear if the search is toward the outer side. And if the search is toward the inner side, approx +2.5V must appear.
NO
Check IC650 IC950 and wiring.
YES
Check IC600 and associated components.
YES
The following signal must appear during track number search between the inner and the outer side of the disc by observing pin24 of IC600.
5V
0V
0.1ms/div
NO
Check IC650, IC951 and associated components.
YES
Check IC600, IC951 and wiring.

Spindle section

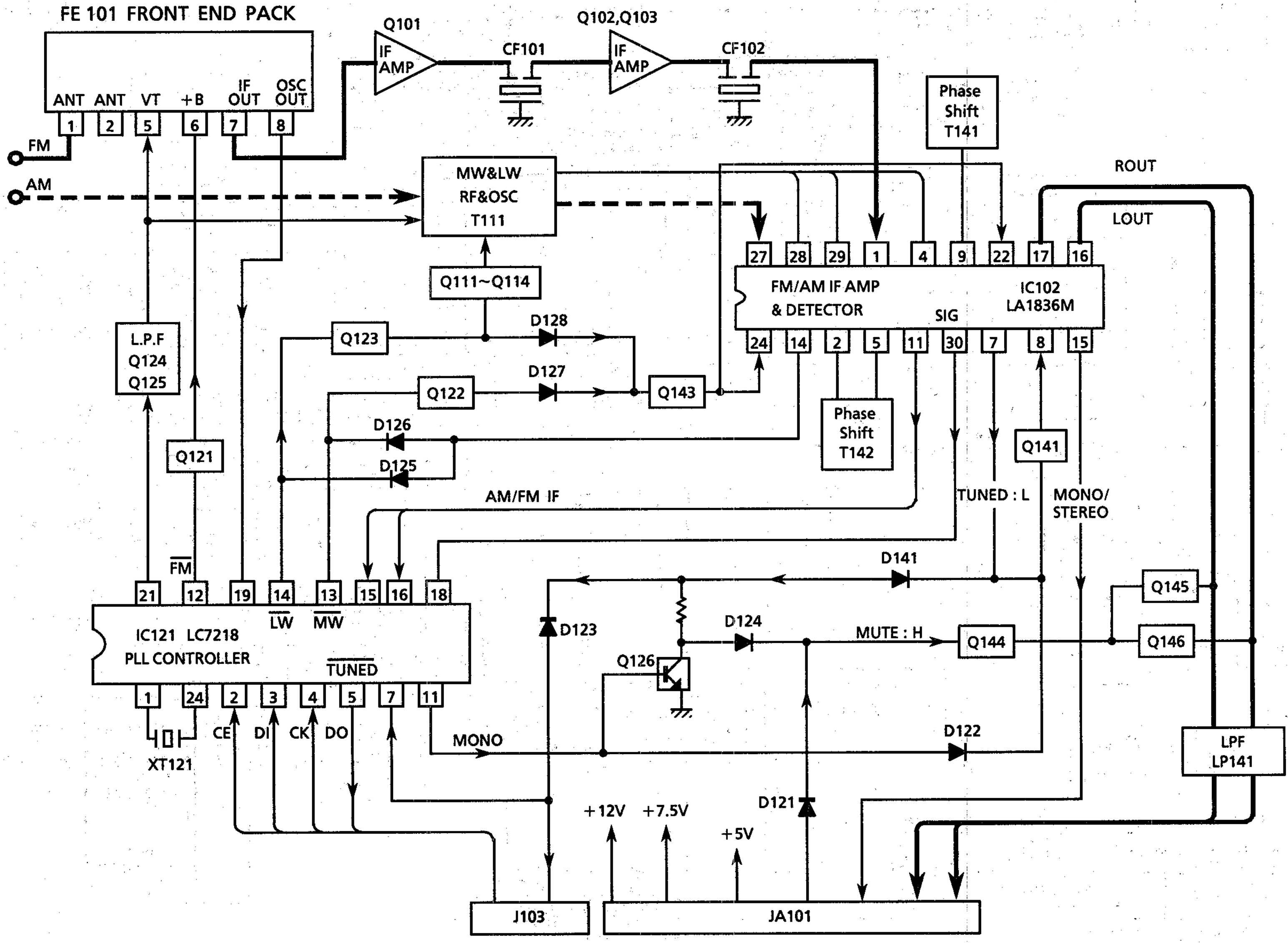
Note) When checking the voltages between pin11 and pin12 of IC700 with an oscilloscope, do not connect the other probes.


Is the pin21, 22 of IC700 +10V?
NO
Check the power supply circuit.
YES
Does the spindle motor stop in the STOP status?
NO
Is pin25 of IC650 0V(VREF) fixedly?
NO
Check IC650 and associated components.
YES
Defective IC700
YES
Does the disc accelerate to rotate after closing the tray?
NO
Is the voltage approx +3V between pin11 and pin12 of IC700 for approx 400ms? (pin12 must be the basis)
NO
Can the following waveform be observed at pin24 of IC650?
2.5V (V REF)
0
Approx 400ms
NO
Check IC650 or IC951.
YES
Check the spindle motor and wiring.
YES
Check IC700 and associated components.
YES
Does the disc rotate smoothly in the PLAY status?
NO
The following waveforms must appear by observing between pin11 and pin12 of IC700 during playing the inner side of the disc. (pin12 must be the basis.)
AVE. 600mV
0
500mV/div
50ms/div
NO
Does the signal from pin25 of IC650 show the following waveform during playing mode?
2.5V (V REF)
0
Approx 135µs
50µs/div
NO
Check IC650 and IC951.
YES
Check the spindle motor and wiring.
YES
Check IC700 and associated components.
Check the RF signal and pickup.
YES
Does the spindle motor stop soon after the Stop Button is pressed?
NO
Is there approx −3V between pin11 and pin12 of IC700 for 1~1.4s when stopped? (pin12 must be the basis.)
NO
Is there the following signal at pin24 of IC650 when stopped?
1~1.4s
2.5V (V REF)
5V
0
NO
Check IC650 or IC951.
YES
OK
YES
Check the spindle motor and wiring.
YES
Check IC700 and associated components.

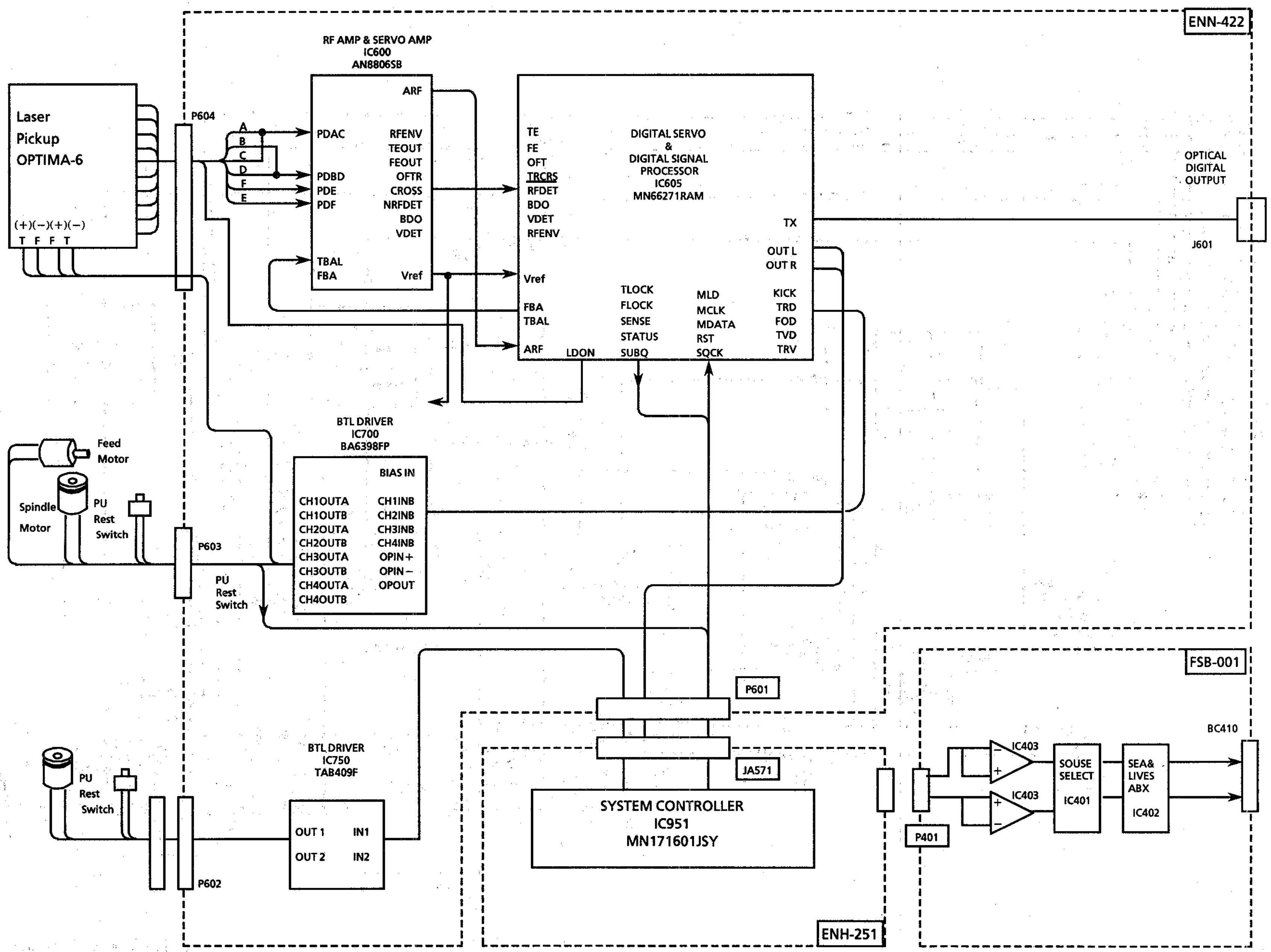
■System Control & Audio Section


SOURCE SELECT IC401
AUXL
AUXR
TO DECK TUNER CD
SEA & LIVE-S AMP IC402
TO DECK REC IN
MUTE Q401~Q404
MOTOR DRIVER IC404
POWER AMP IC501 STK4161MKV
H,PHON MUTE Q565,Q566
RY501
HEAD PHONE
PROTECTOR Q536,Q537,Q538
Q539
SPEAKER TERMINALS
FL DISPLAY FL800
B.P.F & SPI DRIVER XR109502(IC802)
MIC JACK
MIC AMP IC405 BA15218N
A/D,DELAY& D/A(IC999)
CONPANDER LPF&ECHO MIX (IC998)
JOG MODE SW JS800
SEA MODE SW S842~S847 S849,S851
P.OFF CONT Q556~Q559
D501~D5504
A DECK CAM SW
A CAM DRIVE IC921
A DECK LEAF SW S
A REEL DRIVE IC923,Q931
A DECK HALL IC
CAPSTAN MOTOR CONTROL Q942,Q944
B DECK CAM SW
B CAM DRIVE IC922
B DECK LEAF SW S
B REEL DRIVE IC924,Q932
B DECK HALL IC
DECK / SYSTEM CONTROL IC901 HD404719A57FS
REGURATOR
+5.6
Q554,Q553,D552
+10V
Q552,Q551,D551
+12V
Q557,Q555,D553
-7.5V
Q563,D559,D555
+7.5V
Q561,Q560,D554
D541~D546
FL1
FL2
-30V
Q573 D576,D577,D578
DECK MODE INDICATOR D810~D816
DCS I/O
DECK MODE SW S918~S930
Remote control signal detector IC803
KEY ON
CD CONTROL IC951 MN171601JSY1
REGURATOR Q591,Q593
+5V
TUNER&DISPLAY CONTROL(IIC801) MN172412J5F
CD DISPLAY DATA
RESET Q800 Q801
INH Q571,Q572
RESE 1
INH
TO DECK AMP
DECK CONTROL
JB304
TO TUNER
TUNER/TIMER KEY S800~S808
TO CD
CD KEY SW S800~S816/831~S841
CD-PLAY INDICATOR D817

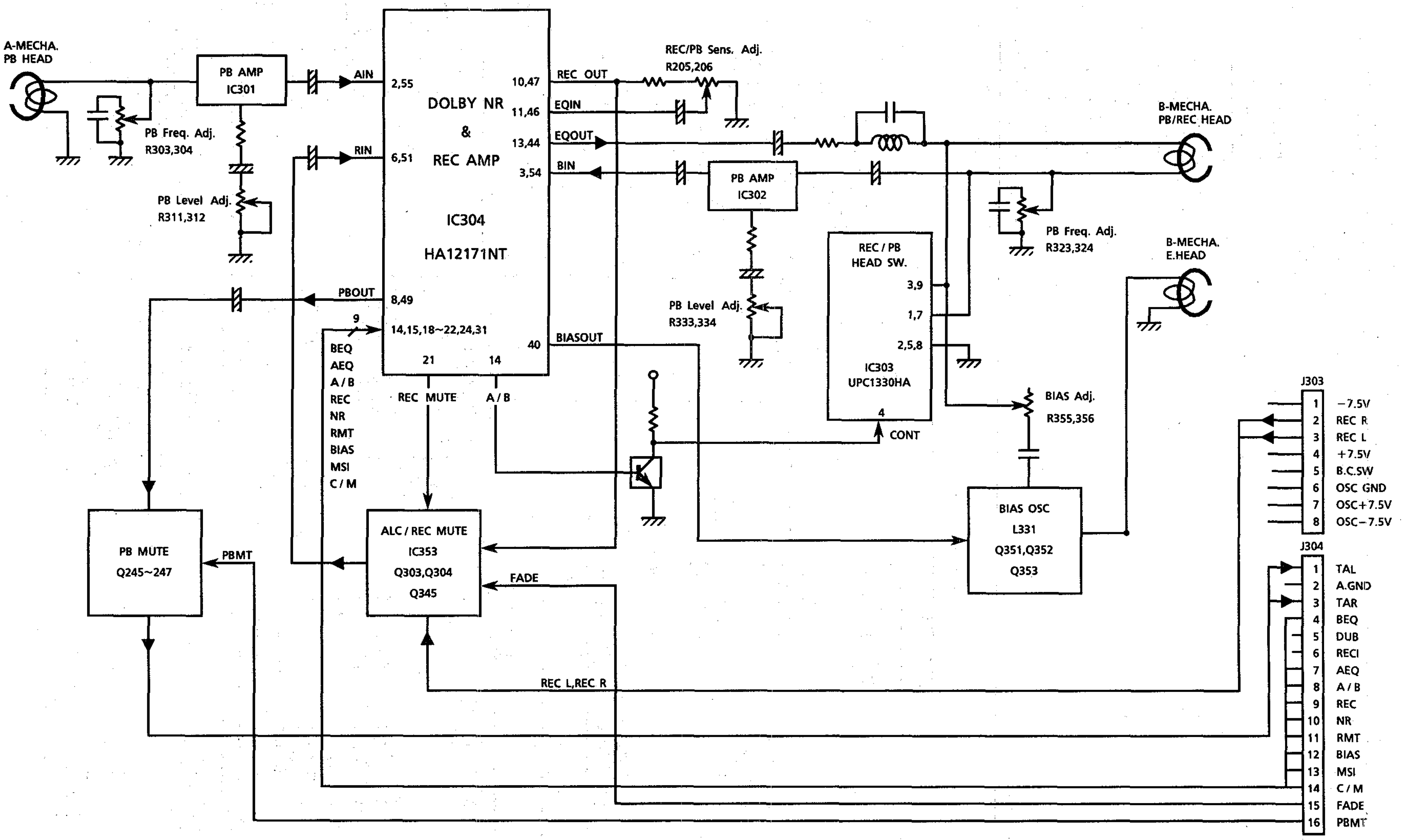
Tuner Section


FE 101 FRONT END PACK
ANT
ANT
VT
+B
IF OUT
OSC OUT
1
2
5
6
7
8
FM
AM
Q101
IF AMP
CF101
Q102,Q103
IF AMP
CF102
Phase Shift T141
MW&LW RF&OSC T111
Q111~Q114
ROUT
LOUT
27
28
29
1
4
9
22
17
16
FM/AM IF AMP & DETECTOR
IC102 LA1836M
SIG
24
14
2
5
11
30
7
8
15
L.P.F Q124 Q125
Q123
D128
Q122
D127
Q143
D126
D125
Phase Shift T142
Q141
Q121
AM/FM IF
TUNED : L
MONO/ STEREO
FM
21
12
19
14
13
15
16
18
LW
MW
IC121 LC7218
PLL CONTROLLER
TUNED
D141
Q145
D123
D124
MUTE : H
Q144
Q146
Q126
1
24
2
3
4
5
7
11
CE
DI
CK
DO
XT121
MONO
D122
LPF LP141
D121
+12V
+7.5V
+5V
J103
JA101

■ CD Section


ENN-422
RF AMP & SERVO AMP
IC600
AN8806SB
ARF
PDAC
RFENV
TEOUT
FEOUT
PDBD
OFTR
PDE
CROSS
PDF
NRFDET
BDO
VDET
TBAL
FBA
Vref
Laser
Pickup
OPTIMA-6
(+)(−)(+)(−)
T F F T
P604
A
B
C
D
F
E
TE
FE
OFT
TRCRS
RFDET
BDO
VDET
RFENV
Vref
FBA
TBAL
ARF
LDON
DIGITAL SERVO
&
DIGITAL SIGNAL
PROCESSOR
IC605
MN66271RAM
TX
OUT L
OUT R
TLOCK
FLOCK
SENSE
STATUS
SUBQ
MLD
MCLK
MDATA
RST
SQCK
KICK
TRD
FOD
TVD
TRV
OPTICAL
DIGITAL
OUTPUT
J601
Feed
Motor
Spindle
Motor
PU
Rest
Switch
P603
PU
Rest
Switch
BTL DRIVER
IC700
BA6398FP
BIAS IN
CH1OUTA
CH1OUTB
CH2OUTA
CH2OUTB
CH3OUTA
CH3OUTB
CH4OUTA
CH4OUTB
CH1INB
CH2INB
CH3INB
CH4INB
OPIN+
OPIN−
OPOUT
FSB-001
P601
JA571
PU
Rest
Switch
BTL DRIVER
IC750
TAB409F
OUT 1
OUT 2
IN1
IN2
P602
SYSTEM CONTROLLER
IC951
MN171601JSY
ENH-251
BC410
IC403
IC403
SOUSE
SELECT
IC401
SEA&
LIVES
ABX
IC402
P401

■ Cassette deck section


A-MECHA.
PB HEAD
PB AMP
IC301
PB Freq. Adj.
R303,304
PB Level Adj.
R311,312
AIN
RIN
PBOUT
2,55
6,51
8,49
9
14,15,18~22,24,31
DOLBY NR
&
REC AMP
IC304
HA12171NT
10,47
11,46
13,44
3,54
40
21
14
REC OUT
EQIN
EQOUT
BIN
BIASOUT
REC/PB Sens. Adj.
R205,206
PB AMP
IC302
PB Level Adj.
R333,334
REC / PB
HEAD SW.
3,9
1,7
2,5,8
IC303
UPC1330HA
4
CONT
B-MECHA.
PB/REC HEAD
PB Freq. Adj.
R323,324
B-MECHA.
E.HEAD
BIAS Adj.
R355,356
BIAS OSC
L331
Q351,Q352
Q353
BEQ
AEQ
A / B
REC
NR
RMT
BIAS
MSI
C / M
REC MUTE
A / B
ALC / REC MUTE
IC353
Q303,Q304
Q345
FADE
PB MUTE
Q245~247
PBMT
REC L,REC R
J303
1 −7.5V
2 REC R
3 REC L
4 +7.5V
5 B.C.SW
6 OSC GND
7 OSC+7.5V
8 OSC−7.5V
J304
1 TAL
2 A.GND
3 TAR
4 BEQ
5 DUB
6 RECI
7 AEQ
8 A / B
9 REC
10 NR
11 RMT
12 BIAS
13 MSI
14 C / M
15 FADE
16 PBMT

PARTS LIST

※ **UB version (for HongKong) adopts parts for U version (Universal Type) except specified partsAll printed circuit boards and its assemblies are not available as service parts.**

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  ■ ENB-195 ☐ Front & Audio Selector PC Board Ass'y 2-17
  ■ ENN-422 A CD Servo PC Board Ass'y 2-21
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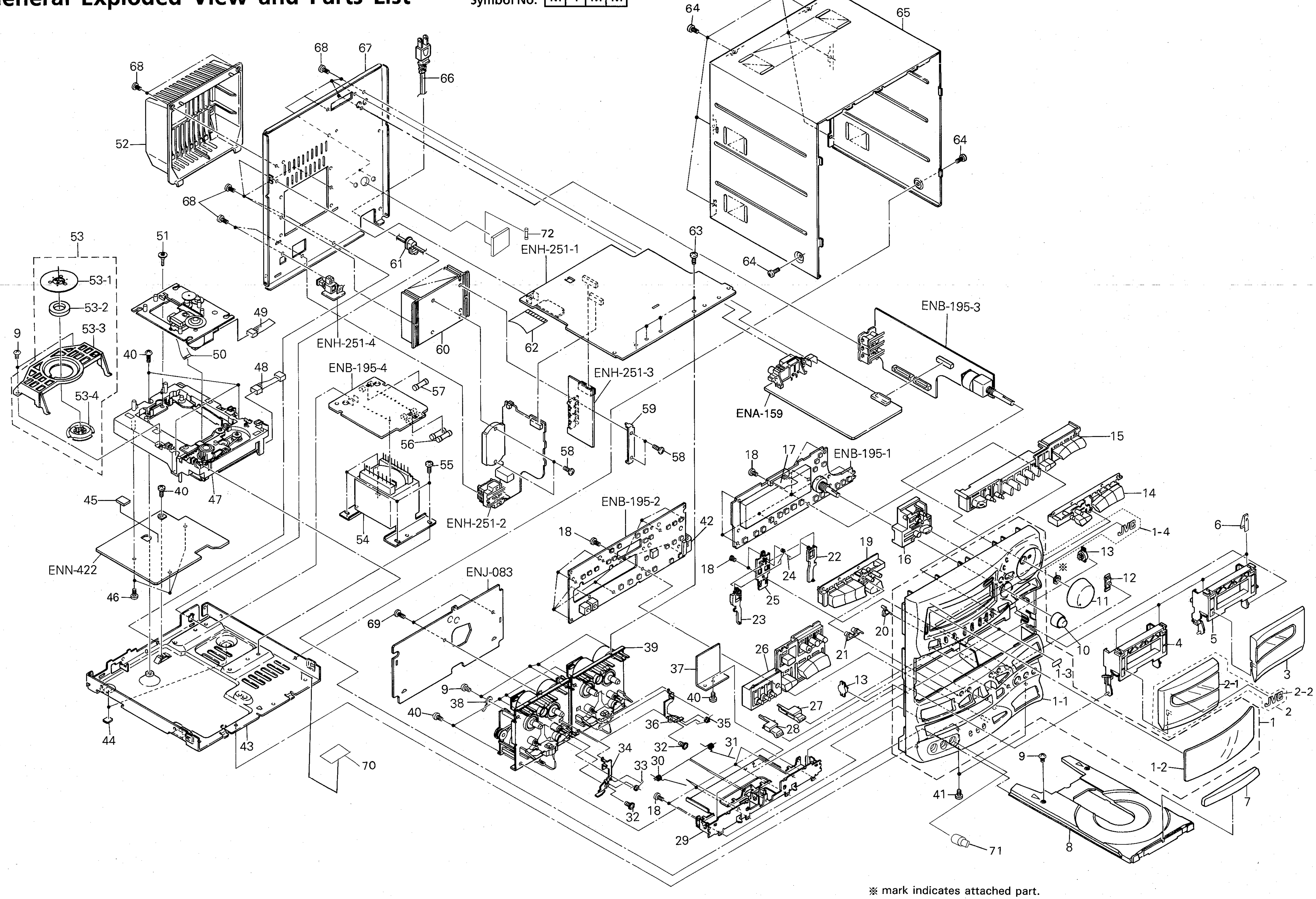
Packing Materials and Part Numbers 2-30

General Exploded View and Parts List

Symbol No. M 1 M M


64
65
68
67
66
68
52
68
64
72
ENH-251-1
63
64
53
51
53-1
53-2
53-3
9
49
61
ENH-251-4
60
62
ENB-195-3
40
50
48
53-4
ENB-195-4
57
ENH-251-3
ENA-159
59
56
55
58
58
15
18
17
ENB-195-1
45
40
47
54
ENH-251-2
ENB-195-2
42
14
18
JVC
1-4
6
16
19
13
22
24
18
25
12
※
11
ENN-422
46
ENJ-083
23
20
10
4
5
69
39
37
21
3
26
13
2-1
JVC
2-2
9
38
40
27
1-3
1-1
2
1
40
36
35
28
44
43
32
31
34
33
30
70
9
1-2
41
7
32
18
29
71
8

※ mark indicates attached part.

Symbol No. M 1 M M

■ Parts List

⚠	Item	Part Number	Part Name	Q'ty	Description	Area
	1	EFP-CAS300E(S)	FRONT PANEL ASSY	1		
	1-1	E102901-005SS	FRONT PANEL	1		
	1-2	E208234-001SS	WINDOW SCREEN	1		
	1-3	E69777-003	REFLECTION PLATE	2		
	1-4	E406971-001SS	JVC MARK	1		
	2	FSJT2003-001SA	CASS LID ASSY	1		
	2-1	FSJT2003-001	CASSETTE LID	1		
	2-2	E406971-001SS	JVC MARK	1		
	3	FSJT2004-001	CASSETTE LID	1		
	4	E207972-004SS	CASSETTE HOLDER	1		
	5	E207973-004SS	CASSETTE HOLDER	1		
	6	E406713-001	CASSETE SPRING	4		
	7	E208236-001SS	FITTING	1		
	8	E102358-332SS	CD TRAY	1		
	9	SBSF3008Z	TAPPING SCREW	7		
	10	FSXP3016-001	SELECT KNOB	1		
	11	E309083-003SS	VOLUME KNOB	1		
	12	E408303-001SS	REMOTE LENS	1		
	13	E304434-005	DAMPER ASSY	2		
	14	E208244-002SS	PUSH BUTTON ASSY	1		
	15	E208238-004SS	PUSH BUTTON ASSY	1		BS,EF,EN,G,GI,VX
		E208238-005SS	PUSH BUTTON ASSY	1		A,U,US,UT
	16	E309079-001SS	PUSH BUTTON	1		
	17	VWF1225-20TTB	FLAT WIRE ASSY	1		
	18	SDSF2608Z	SCREW	24		
	19	E208241-002SS	PUSH BUTTON ASSY	1		
	20	E408306-001SS	INDICATOR	1		
	21	E408305-001SS	INDICATOR	1		
	22	E308681-002SS	EJECT LEVER	1		
	23	E308682-002SS	EJECT LEVER	1		
	24	E407798-002SS	SPRING	1		
	25	E308683-002SS	EJECT GUIDE	1		
	26	E208247-003SS	PUSHBUTON ASSY	1		
	27	E309082-002SS	EJECT BUTTON	1		
	28	E309081-002SS	EJECT BUTTON	1		
	29	E208256-001SS	HOLDER BKT	1		
	30	FSKW4002-001	HOLDER SPRING	1		
	31	FSKW4003-001	HOLDER SPRING	1		
	32	GBSF3006Z	TAPPING SCREW	2		
	33	E407801-002SS	SPRING	1		
	34	E407799-001SS	EJECT SAFTY	1		
	35	E407802-002SS	SPRING	1		
	36	E407800-001SS	EJECT SAFTY	1		
	37	E408393-002SS	SHIELD PLATE	1		
	38	VKZ4001-111S	WIRE CLAMP	1		
	39	--------------------	CASSETTE MECHANISM ASSY	1	SEE PAGE 2-7	
	40	SBST3006Z	TAPPING SCREW	9		
	41	GBSG3008Z	TAPPING SCREW	2		
	42	VWF1219-25TTB	FLAT WIRE ASSY	1		
	43	E102903-001SS	CHASSIS BASE	1		
	44	E75896-006	FELT SPACER	2		
	45	E75896-001	SPACER	1		
	46	SBSF2608Z	TAPPING SCREW	3		
	47	--------------------	CD MECHANISM ASSY	1	SEE PAGE 2-10	
	48	EWS265-B412	SOCKET WIRE	1		
	49	EWS266-B410	SOCKET WIRE	1		
	50	EWR615M-08BBJ2	FLAT WIRE ASSY	1		
	51	E406293-001	SPECIAL SCREW	1		
	52	E207356-223SS	REAR COVER	1		
	53-1	E306836-003	YOKE PLATE	1		
	53-2	E74897-002	MAGNET	1		
	53-3	E26756-002	CLAMPER BASE	1		
	53-4	E306835-001	CD CLAMPER	1		
	54	ETP1070-36EAJ	POWER TRANSFORMER	1		A,EF,EN,G,GI,VX
	54	ETP1070-36EAJBS	POWER TRANSFORMER	1		BS
	54	ETP1070-36FAJ	POWER TRANSFORMER	1		U,US,UT
	55	E408279-001	SPECIAL SCREW	4		
⚠	56	QMF51E2-1R25JT	FUSE	2	F501,502(T1.25A/250V)	Except BS
⚠		QMF51E2-1R2J1BS	FUSE	2	F501,502(T1.2A/250V)	BS
⚠	57	QMF51E2-1R0J1	FUSE	1	F001(T1.0A/250V)	A,EF,EN,G,GI,VX
⚠		QMF51E2-1R0J1BS	FUSE	1	F001(T1.0A/250V)	BS
⚠		QMF51E2-2R0J1	FUSE	1	F001(T2.0A/250V)	U,US,UT
	58	SBSG3014Z	TAPPING SCREW	4		
	59	E406969-221SS	LEAF SPRING	1		
	60	FSJC3007-001	HEAT SINK	1		
⚠	61	QHS3876-162	CORD STOPPER	1		
	62	VWF1223-20TTB	FLAT WIRE ASSY	1		
	63	SPST2604Z	TAPPING SCREW	4		
	64	SDSG3006M	TAPPING SCREW	8		
	65	E208260-001SS	METAL COVER	1		
⚠	66	QMP25F0-244	POWER CORD	1		A
⚠		QMP3900-200E	POWER CORD	1		EF,EN,G,US,VX,GI
⚠		QMP5530-0085BS	POWER CORD	1		BS,UB
⚠		QMP7520-200	POWER CORD	1		U,UT
	67	E102904-023SS	REAR PANEL	1		U,US,UT,
		E102904-024SS	REAR PANEL	1		BS,EF,EN,G,GI
		E102904-025SS	REAR PANEL	1		A
		E102904-026SS	REAR PANEL	1		VX
	68	E73273-003	SPECIAL SCREW	11		
		E73273-003	SPECIAL SCREW	2		U,US,UT
	69	SBSG3006Z	TAPPING SCREW	2		
	71	FSXP3017-001	MIC KNOB	1		
⚠	72	QMF51E2-1R0J1	FUSE	1	F002(T1.0A/250V)	U,US,UT
	-	E61029-005	NUMBER LABEL	1		
	-	E406507-001	CAUTION LABEL	1		
	-	E70891-001	CLASS 1 LABEL	1		
	-	QZL1007-001	BEAB LABEL	1		BS
	-	QZL1031-101	LABEL	1		EF
	-	E70028-001	LABEL	1		EN
	-	E75139-004	NAME LABEL	1		U
	-	FSYN9007-002	RATING LABEL	2		UT
	-	E408450-001	CE LABEL	2		BS,EF,EN,G,GI

⚠ : Safety Parts

The Marks for Designated Areas

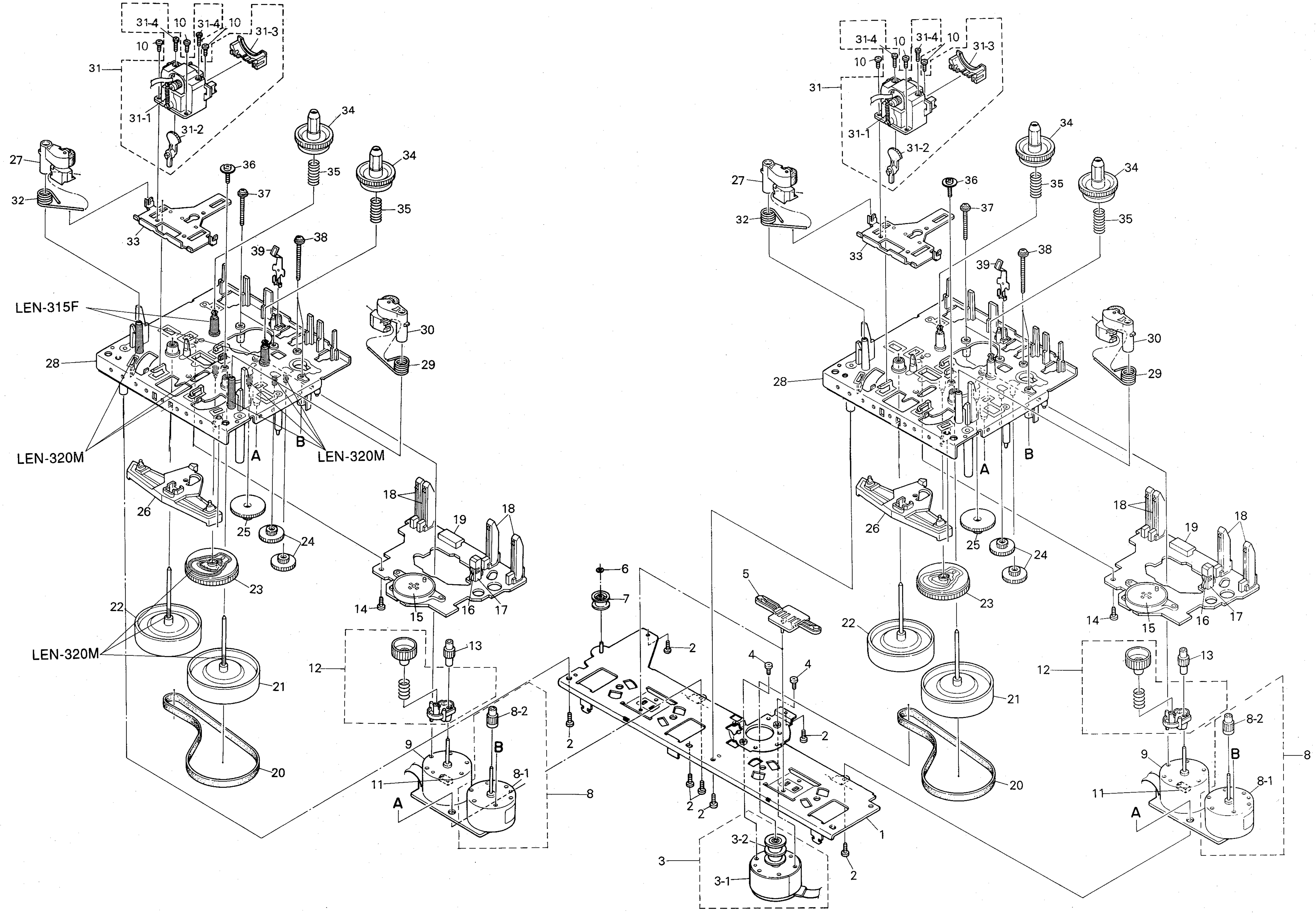
A	Australia	BS	the U.K.	EF ...	Continental Europe	EN	Scandinavia
G	Germany	GI	Italy	U ...	Universal Type	US ...	Singapore
UT ...	Taiwan	VX ...	East Europe	UB ..	HongKong		

No mark indicates all area.

Cassette Mechanism Ass'y and Parts List

Symbol No. M 2 M M

■ Grease Point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LEN-315F
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LEN-320M
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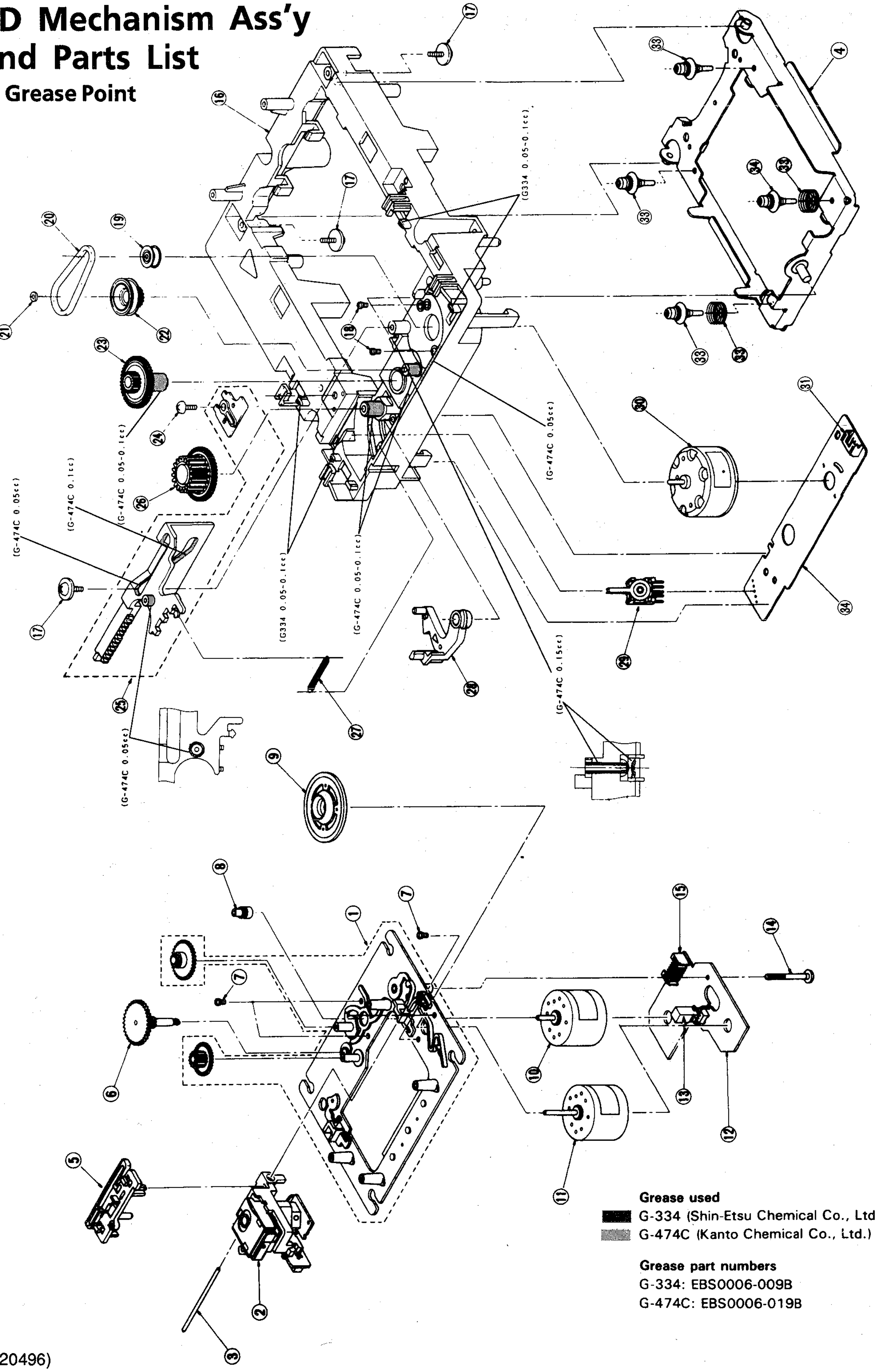
Symbol No. M 2 M M

■ Parsts List (Cassette Mechanism Ass'y)

⚠	Item	Part Number	Part Name	Q'ty	Description	Area
	1	VKM3775-00A	FM. BKT. ASS'Y	1		
	2	SDSF2608Z	SCREW	7		
	3	MSI5U2LWA-SA1	DC MOTOR ASSY	1		
	3-1	MSI-5U2LWA	DC MOTOR	1		
	3-2	VKR4632-003MM	MOTOR PULLEY	1		
	4	SPSP2603Z	WOOD SCREW	2		
	5	VKS5327-005MM	LOCK PLATE	2		
	6	WDL163525-4	WASHER	1		
	7	VKR4631-005MM	IDLER PULLEY	1		
	8	MSN5D257A-SA1	DC MOTOR ASSY	1		
	8-1	MSN-5D257A	DC MOTOR	2		
	8-2	VKS5433-001	ACTUATER MOTOR GEAR	2		
	9	MMN-6F4RA38	DC MOTOR	2		
	10	SDSR2004Z	SCREW	6		
	11	VMC0234-R08	CONNECT TERMINAL	2		
	12	VKS5430-00CMM	F.F/REW.ARM	2		
	13	VKS5432-001	REEL MOTOR GEAR	2		
	14	SDST2612Z	SCREW	2		
	15	VKS3616-00A	CAM SWITCH	2		
	16	DN6851-HI	I.C(M)	2		
	17	VKS3630-001MM	I.C.PROTECTOR	2		
	18	MXS00220MVL0	CASSETTE SWITCH	7		
	19	VMC0234-R11	CONNECT TERMINAL	1	A MECHA	
	19	VMC0234-R14	CONNECT TERMINAL	1	B MECHA	
	20	VKB3001-064	DRIVE BELT	1	A MECHA	
	20	VKB3001-065	DRIVE BELT	1	B MECHA	
	21	VKF3184-00H	FLYWHEELASSY	2	RIGHT	
	22	VKF3186-00H	FLYWHEELASSY	2	LEFT	
	23	VKS2224-002	CONTROL CAM	2		
	24	VKS5454-001	ACTUATER GEAR	4		
	25	VKS5455-001	ACTUATER GEAR	2		
	26	VKS3627-001	PINCH ROLLER LEVER	2		
	27	VKP4229-00B	PINCH ROLLER	2	LEFT	
	28	VKS1134-00B	CHASSIS BASE	2		
	29	VKW5045-003	PINCH ROLLER SPRING	2	RIGHT	
	30	VKP4227-00B	PINCH ROLLER ASSY	2	RIGHT	
	31	VKS3701-00AMM	H.MOUNT ASS'Y	1	A MECHA	
		VKS3682-00BMM	H.MOUNT ASS'Y	1	B MECHA	
	31-1	VKW5126-001	HEAD SPRING	2		
	31-2	VKS3670-001	CONNECT GEAR	2		
	31-3	VKS3671-001	HEAD COVER	2		
	31-4	VKZ4730-001	SPECIAL SCREW	4		
	32	VKW5046-003	PINCH ROLLER SPRING	2	LEFT	
	33	VKM3632-001	HEAD BASE	2		
	34	VKS3617-002	REEL DISK	4		
	35	VKW5043-001	TENSION SPRING	4		
	36	VKZ4708-001	SPECIAL SCREW	2		
	37	VKZ4705-101	SCREW	4		
	38	VKZ4705-102	SCREW	4		
	39	VKY4670-001	SPRING	2		

CD Mechanism Ass'y and Parts List

■ Grease Point



Grease used

▇ G-334 (Shin-Etsu Chemical Co., Ltd.)

▨ G-474C (Kanto Chemical Co., Ltd.)

Grease part numbers

G-334: EBS0006-009B

G-474C: EBS0006-019B

Symbol No. | M | 3 | M | M |

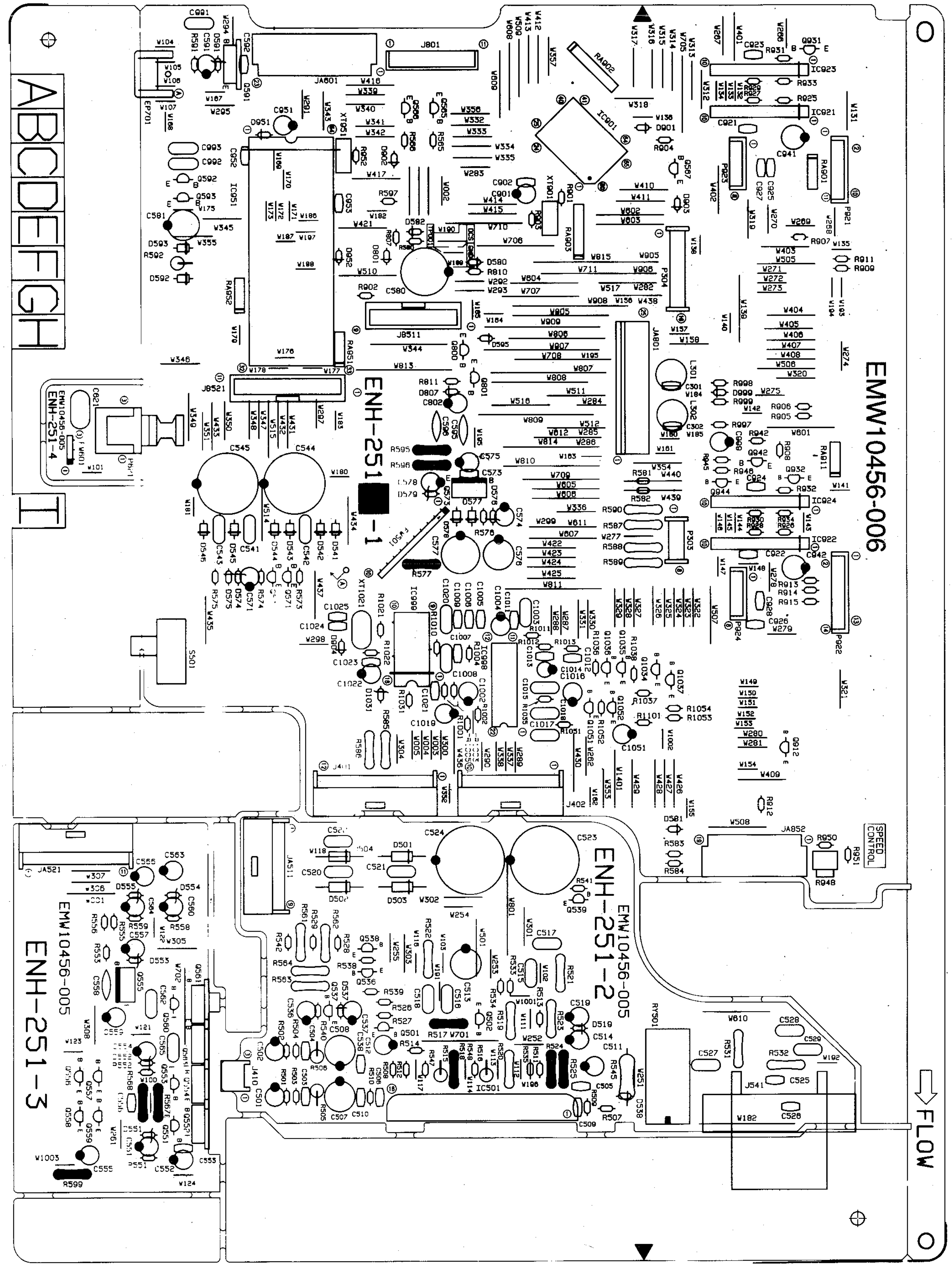
■ Parts List (CD Mechanism Ass'y)

Item	Part Number	Part Name	Q'ty	Description	Area
1	E102501-221SS	MECHANISM BASE ASSY	1		
2	OPTIMA-6S	PICK UP ASSY	1		
3	E406777-001	GUIDE SHAFT	1		
4	E307179-222	LOADING BASE ASSY	1		
5	E307746-001	CD RACK	1		
6	E307745-221SS	GEAR (3)	1		
7	SDSP2003N	SCREW	4		
8	E406750-221SS	PINION GEAR	1		
9	E75807-302	TURN TABLE	1		
10	MDN-4RA3ETA-1	FEED MOTOR	1		
11	E406783-001	SPINDLE MOTOR	1		
12	EMW10190-221(S)	MOTOR PC BOARD	1		
13	ESB1100-005	LEAF SWITCH	1		
14	E75832-001	SPECIAL SCREW	1		
15	EMV5109-006B	CONNECTOT	1	6PIN	
16	E102357-221	LODING BASE	1		
17	E65923-003	SCREW	3		
18	SPSK2640Z	SCREW	1		
19	E75984-001	MOTOR PULLY	1		
20	E75950-002	REEL BELT	1		
21	E72024-001	SPEED NUT	1		
22	E75985-001	DRIVE GEAR	1		
23	E75986-002	REEL GEAR	1		
24	SBSF3008Z	SCREW	1		
25	E307252-221	CAM PLATE	1		
26	E75987-001	REEL GEAR	1		
27	E75989-001	SPRING	1		
28	E307162-221	ACTION LEVER	1		
29	ESS1200-002	SLIDE SWITCH	1		
30	MMN-6F1LB8Q	LOADING MOTOR	1		
31	EMV5109-005B	PLUG ASSY	1	5PIN	
32	E406871-001	SPRING	2		
33	E406294-002	INSULATOR	4		
34	EMW10264-002(S)	MOTOR ASSY	1		
35	SDSF2006Z	SCREW	1		

Printed Circuit Board Ass'y and Parts List

■ ENH-251 ☐ Control & Amp PC Board Ass'y

Note : ENH-251 ☐ varies according to the areas employd. See note (1) when placing an order.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EMW10456-006
ENH-251-1
ENH-251-2
EMW10456-005
ENH-251-3
EMW10456-005
ENH-251-4
EMW10456-005
SPEED CONTROL
FLOW
J801
JA801
IC901
IC921
IC923
IC924
IC922
IC951
IC998
IC999
IC501
JB511
JB521
J401
J402
JA852
JA521
JA511
J410
J541
S501
RY501

Note (1)

PC Board Ass'y	Version	Dasignated Areas
ENH-251 L	BS	the U.K.
ENH-251 M	A	Austraila
ENH-251 N	EN EF	Scandinavia Continental Europe
ENH-251 O	U UT US	Universal Type Taiwan Singapore
ENH-251 P	G GI	Germany Italy
ENH-251 Q	VX	East Europe

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q501	DTA143XS	DIGITAL TRA ROHM	
	Q502	DTA143XS	DIGITAL TRA ROHM	
	Q536	DTC123ESTP	SI.TRANSIST EURO	
	Q537	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q538	2SA933S(RS)	SI.TRANSIST ﾄｸﾗ	
	Q539	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q551	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q552	2SD2061(F,G)	SI.TRANSIST ROHM	
	Q553	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q554	2SD2061(F,G)	SI.TRANSIST ROHM	
	Q555	2SD2037(E,F)	SI.TRANSIST ROHM	
	Q556	DTC144ES	DIGITAL TRA ROHM	
	Q557	DTA144ES	DIGITAL TRA ROHM	
	Q558	DTA144ES	DIGITAL TRA ROHM	
	Q559	DTC144ES	DIGITAL TRA ROHM	
	Q560	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q561	2SD2061(F,G)	SI.TRANSIST ROHM	
	Q563	2SB1187(F,G)	SI.TRANSIST ROHM	
	Q565	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q566	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q567	DTA114TS	DIGITAL TRA ROHM	
	Q571	DTC114YS	DIGITAL TRA ROHM	
	Q572	DTC114YS	DIGITAL TRA ROHM	
	Q573	2SA934(Q,R)	SI.TRANSIST ROHM	
	Q591	2SD2061(F,G)	SI.TRANSIST ROHM	
	Q592	DTA144ES	DIGITAL TRA ROHM	
	Q593	DTC144ES	DIGITAL TRA ROHM	
	Q800	DTC114YS	DIGITAL TRA ROHM	
	Q801	DTC144ES	DIGITAL TRA ROHM	
	Q912	DTC144ES	DIGITAL TRA ROHM	
	Q931	DTC144ES	DIGITAL TRA ROHM	
	Q932	DTC144ES	DIGITAL TRA ROHM	
	Q942	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q944	2SA933S(RS)	SI.TRANSIST ﾄｸﾗ	
	Q1034	DTC144ES	DIGITAL TRA ROHM	U
	Q1034	DTC144ES	DIGITAL TRA ROHM	US
	Q1034	DTC144ES	DIGITAL TRA ROHM	UT
	Q1035	DTC144ES	DIGITAL TRA ROHM	U
	Q1035	DTC144ES	DIGITAL TRA ROHM	US
	Q1035	DTC144ES	DIGITAL TRA ROHM	UT
	Q1036	DTC144ES	DIGITAL TRA ROHM	U
	Q1036	DTC144ES	DIGITAL TRA ROHM	US
	Q1036	DTC144ES	DIGITAL TRA ROHM	UT
	Q1037	DTC144ES	DIGITAL TRA ROHM	U
	Q1037	DTC144ES	DIGITAL TRA ROHM	US
	Q1037	DTC144ES	DIGITAL TRA ROHM	UT
	Q1051	2SC1740S(R,S)	SI.TRANSIST ROHM	U
	Q1051	2SC1740S(R,S)	SI.TRANSIST ROHM	US
	Q1051	2SC1740S(R,S)	SI.TRANSIST ROHM	UT
	Q1052	2SC1740S(R,S)	SI.TRANSIST ROHM	U
	Q1052	2SC1740S(R,S)	SI.TRANSIST ROHM	US
	Q1052	2SC1740S(R,S)	SI.TRANSIST ROHM	UT

⚠ : SAFETY PARTS

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC501	STK4141MK5	I.C(HYBRID) SANYO	
	IC901	HD404719A58FS	I.C(MICRO-C 0050	
	IC921	LB1641	I.C(DIGI-OT SANYO	
	IC922	LB1641	I.C(DIGI-OT SANYO	
	IC923	LB1641	I.C(DIGI-OT SANYO	
	IC924	LB1641	I.C(DIGI-OT SANYO	
	IC951	MN171601JYS1	I.C(M) MATSUSHITA	
	IC998	BA7725S	I.C(MONO-AN ROHM	U
	IC998	BA7725S	I.C(MONO-AN ROHM	US
	IC998	BA7725S	I.C(MONO-AN ROHM	UT
	IC999	BU9251S	I.C(M) ROHM	U
	IC999	BU9251S	I.C(M) ROHM	US
	IC999	BU9251S	I.C(M) ROHM	UT

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D501	10E2-FD	DIODE NIHONINTER	
	D502	10E2-FD	DIODE NIHONINTER	
	D503	10E2-FD	DIODE NIHONINTER	
	D504	10E2-FD	DIODE NIHONINTER	
	D519	1SS133	SI.DIODE ROHM	
	D537	1SS133	SI.DIODE ROHM	
	D538	MTZ24JC	ZENER DIODE ROHM	
	D541	1SR139-200	SI.DIODE ROHM	
	D542	1SR139-200	SI.DIODE ROHM	
	D543	1SR139-200	SI.DIODE ROHM	
	D544	1SR139-200	SI.DIODE ROHM	
	D545	1SR139-200	SI.DIODE ROHM	
	D546	1SR139-200	SI.DIODE ROHM	
	D551	MTZ11JC	ZENER DIODE ROHM	
	D552	MTZ6.8JC	ZENER DIODE ROHM	
	D553	MTZ13JC	ZENER DIODE ROHM	
	D554	MTZ9.1JC	ZENER DIODE ROHM	
	D555	MTZ8.2JC	ZENER DIODE ROHM	
	D574	MTZ5.1JC	ZENER DIODE ROHM	
	D575	1SS133	SI.DIODE ROHM	
	D576	MTZ30JC	ZENER DIODE ROHM	
	D577	1SR139-200	SI.DIODE ROHM	
	D578	1SR139-200	SI.DIODE ROHM	
	D579	MTZ5.1JC	ZENER DIODE ROHM	
	D580	1SS133	SI.DIODE ROHM	
	D581	1SS133	SI.DIODE ROHM	
	D582	1SS133	SI.DIODE ROHM	
	D591	MTZ5.6JB	ZENER DIODE ROHM	
	D592	1SR139-200	SI.DIODE ROHM	
	D593	1SR139-200	SI.DIODE ROHM	
	D595	MA700	SI.DIODE MATSUSHITA	
	D801	1SS133	SI.DIODE ROHM	
	D807	1SS133	SI.DIODE ROHM	
	D901	1SS133	SI.DIODE ROHM	
	D902	1SS133	SI.DIODE ROHM	
	D903	1SS133	SI.DIODE ROHM	
	D904	1SS133	SI.DIODE ROHM	
	D951	1SS133	SI.DIODE ROHM	
	D952	1SS133	SI.DIODE ROHM	
	D999	1SS133	SI.DIODE ROHM	
	D1031	MTZ5.1JC	ZENER DIODE ROHM	U
	D1031	MTZ5.1JC	ZENER DIODE ROHM	US
	D1031	MTZ5.1JC	ZENER DIODE ROHM	UT

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C501	QEHB1HM-106	10MF 50V AL E.CAPAC	
	C502	QETB1HM-106	10MF 50V E.CAPACITO	
	C503	QCBB1HK-221Y	220PF 50V CER.CAPACI	
	C504	QCBB1HK-221Y	220PF 50V CER.CAPACI	
	C505	QCBB1HK-331Y	330PF 50V CER.CAPACI	A
	C505	QCBB1HK-331Y	330PF 50V CER.CAPACI	BS
	C505	QCBB1HK-331Y	330PF 50V CER.CAPACI	EF
	C505	QCBB1HK-331Y	330PF 50V CER.CAPACI	EN
	C505	QCBB1HK-331Y	330PF 50V CER.CAPACI	G
	C505	QCBB1HK-331Y	330PF 50V CER.CAPACI	GI
	C505	QCBB1HK-101Y	100PF 50V CER.CAPACI	U
	C505	QCBB1HK-101Y	100PF 50V CER.CAPACI	US
	C505	QCBB1HK-101Y	100PF 50V CER.CAPACI	UT
	C505	QCBB1HK-331Y	330PF 50V CER.CAPACI	VX
	C506	QCBB1HK-331Y	330PF 50V CER.CAPACI	A
	C506	QCBB1HK-331Y	330PF 50V CER.CAPACI	BS
	C506	QCBB1HK-331Y	330PF 50V CER.CAPACI	EF
	C506	QCBB1HK-331Y	330PF 50V CER.CAPACI	EN
	C506	QCBB1HK-331Y	330PF 50V CER.CAPACI	G
	C506	QCBB1HK-331Y	330PF 50V CER.CAPACI	GI

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C506	QCBB1HK-101Y	100PF 50V CER.CAPACI	U
	C506	QCBB1HK-101Y	100PF 50V CER.CAPACI	US
	C506	QCBB1HK-101Y	100PF 50V CER.CAPACI	UT
	C506	QCBB1HK-331Y	330PF 50V CER.CAPACI	VX
	C507	QEHC1EM-107	100MF 25V E.CAPACITO	
	C508	QEHC1EM-107	100MF 25V E.CAPACITO	
	C509	QCSB1HK-4R7Y	4.7PF 50V CER.CAPACI	
	C510	QCSB1HK-4R7Y	4.7PF 50V CER.CAPACI	
	C511	QETB1HM-226E	22MF 50V E.CAPACITO	
	C512	QEHB1HM-226	22MF 50V E.CAPACITO	
	C513	QETB1HM-476	47MF 50V E.CAPACITO	
	C514	QETB1HM-106	10MF 50V E.CAPACITO	
	C515	QFV81HJ-104	0.1MF 50V THIN FILM	
	C516	QFV81HJ-104	0.1MF 50V THIN FILM	
	C517	QFV81HJ-104	0.1MF 50V THIN FILM	
	C518	QFV81HJ-104	0.1MF 50V THIN FILM	
	C519	QETB1HM-106	10MF 50V E.CAPACITO	
	C520	QFN82AJ-103	0.01MF 100V MYLAR CAPA	A
	C520	QFV82AJ-104	0.1MF 100V THIN FILM	BS
	C520	QFV82AJ-104	0.1MF 100V THIN FILM	EF
	C520	QFV82AJ-104	0.1MF 100V THIN FILM	EN
	C520	QFV82AJ-104	0.1MF 100V THIN FILM	G
	C520	QFV82AJ-104	0.1MF 100V THIN FILM	GI
	C520	QFN82AJ-103	0.01MF 100V MYLAR CAPA	U
	C520	QFN82AJ-103	0.01MF 100V MYLAR CAPA	US
	C520	QFN82AJ-103	0.01MF 100V MYLAR CAPA	UT
	C520	QFV82AJ-104	0.1MF 100V THIN FILM	VX
	C521	QFN82AJ-103	0.01MF 100V MYLAR CAPA	A
	C521	QFV82AJ-104	0.1MF 100V THIN FILM	BS
	C521	QFV82AJ-104	0.1MF 100V THIN FILM	EF
	C521	QFV82AJ-104	0.1MF 100V THIN FILM	EN
	C521	QFV82AJ-104	0.1MF 100V THIN FILM	G
	C521	QFV82AJ-104	0.1MF 100V THIN FILM	GI
	C521	QFN82AJ-103	0.01MF 100V MYLAR CAPA	U
	C521	QFN82AJ-103	0.01MF 100V MYLAR CAPA	US
	C521	QFN82AJ-103	0.01MF 100V MYLAR CAPA	UT
	C521	QFV82AJ-104	0.1MF 100V THIN FILM	VX
	C522	QFN82AJ-103	0.01MF 100V MYLAR CAPA	A
	C522	QFV82AJ-104	0.1MF 100V THIN FILM	BS
	C522	QFV82AJ-104	0.1MF 100V THIN FILM	EF
	C522	QFV82AJ-104	0.1MF 100V THIN FILM	EN
	C522	QFV82AJ-104	0.1MF 100V THIN FILM	G
	C522	QFV82AJ-104	0.1MF 100V THIN FILM	GI
	C522	QFN82AJ-103	0.01MF 100V MYLAR CAPA	U
	C522	QFN82AJ-103	0.01MF 100V MYLAR CAPA	US
	C522	QFN82AJ-103	0.01MF 100V MYLAR CAPA	UT
	C522	QFV82AJ-104	0.1MF 100V THIN FILM	VX
	C523	EET4202-228E	2200MF E.CAPACITO	
	C524	EET4202-228E	2200MF E.CAPACITO	
	C525	QCXB1CM-222Y	2200PF 16V CER.CAPACI	BS
	C525	QCXB1CM-222Y	2200PF 16V CER.CAPACI	EF
	C525	QCXB1CM-222Y	2200PF 16V CER.CAPACI	EN
	C525	QCXB1CM-222Y	2200PF 16V CER.CAPACI	G
	C525	QCXB1CM-222Y	2200PF 16V CER.CAPACI	GI
	C525	QCXB1CM-222Y	2200PF 16V CER.CAPACI	VX
	C526	QCXB1CM-222Y	2200PF 16V CER.CAPACI	BS
	C526	QCXB1CM-222Y	2200PF 16V CER.CAPACI	EF
	C526	QCXB1CM-222Y	2200PF 16V CER.CAPACI	EN
	C526	QCXB1CM-222Y	2200PF 16V CER.CAPACI	G
	C526	QCXB1CM-222Y	2200PF 16V CER.CAPACI	GI
	C526	QCXB1CM-222Y	2200PF 16V CER.CAPACI	VX
	C527	QFV81HJ-104	0.1MF 50V THIN FILM	A
	C527	QFV81HJ-104	0.1MF 50V THIN FILM	BS
	C527	QFV81HJ-104	0.1MF 50V THIN FILM	EF
	C527	QFV81HJ-104	0.1MF 50V THIN FILM	EN
	C527	QFV81HJ-104	0.1MF 50V THIN FILM	G
	C527	QFV81HJ-104	0.1MF 50V THIN FILM	GI
	C527	QFN81HJ-223	0.022MF 50V METAL.MYLA	U
	C527	QFN81HJ-223	0.022MF 50V METAL.MYLA	US
	C527	QFN81HJ-223	0.022MF 50V METAL.MYLA	UT
	C527	QFV81HJ-104	0.1MF 50V THIN FILM	VX
	C528	QFV81HJ-104	0.1MF 50V THIN FILM	A
	C528	QFV81HJ-104	0.1MF 50V THIN FILM	BS
	C528	QFV81HJ-104	0.1MF 50V THIN FILM	EF
	C528	QFV81HJ-104	0.1MF 50V THIN FILM	EN
	C528	QFV81HJ-104	0.1MF 50V THIN FILM	G
	C528	QFV81HJ-104	0.1MF 50V THIN FILM	GI
	C528	QFN81HJ-223	0.022MF 50V METAL.MYLA	U
	C528	QFN81HJ-223	0.022MF 50V METAL.MYLA	US
	C528	QFN81HJ-223	0.022MF 50V METAL.MYLA	UT
	C528	QFV81HJ-104	0.1MF 50V THIN FILM	VX
	C529	QFN81HJ-223	0.022MF 50V METAL.MYLA	A
	C529	QFN81HJ-223	0.022MF 50V METAL.MYLA	BS
	C529	QFN81HJ-223	0.022MF 50V METAL.MYLA	EF
	C529	QFN81HJ-223	0.022MF 50V METAL.MYLA	EN
	C529	QFN81HJ-223	0.022MF 50V METAL.MYLA	G
	C529	QFN81HJ-223	0.022MF 50V METAL.MYLA	GI
	C529	QFN81HJ-223	0.022MF 50V METAL.MYLA	VX
	C536	QETB1CM-476	47MF 16V AL E.CAPAC	
	C537	QETB1CM-226	22MF 16V E.CAPACITO	
	C538	QCHB1EZ-223	0.022MF 25V CER.CAPACI	A
	C538	QCHB1EZ-223	0.022MF 25V CER.CAPACI	BS
	C538	QCHB1EZ-223	0.022MF 25V CER.CAPACI	EF
	C538	QCHB1EZ-223	0.022MF 25V CER.CAPACI	EN
	C538	QCHB1EZ-223	0.022MF 25V CER.CAPACI	G

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C538	QCHB1EZ-223	0.022MF 25V CER.CAPACI	GI
	C538	QCHB1EZ-223	0.022MF 25V CER.CAPACI	VX
	C541	QFN82AJ-103	0.01MF 100V MYLAR CAPA	A
	C541	QFV82AJ-104	0.1MF 100V THIN FILM	BS
	C541	QFV82AJ-104	0.1MF 100V THIN FILM	EF
	C541	QFV82AJ-104	0.1MF 100V THIN FILM	EN
	C541	QFV82AJ-104	0.1MF 100V THIN FILM	G
	C541	QFV82AJ-104	0.1MF 100V THIN FILM	GI
	C541	QFN82AJ-103	0.01MF 100V MYLAR CAPA	U
	C541	QFN82AJ-103	0.01MF 100V MYLAR CAPA	US
	C541	QFN82AJ-103	0.01MF 100V MYLAR CAPA	UT
	C541	QFV82AJ-104	0.1MF 100V THIN FILM	VX
	C542	QFN82AJ-103	0.01MF 100V MYLAR CAPA	A
	C542	QFV82AJ-104	0.1MF 100V THIN FILM	BS
	C542	QFV82AJ-104	0.1MF 100V THIN FILM	EF
	C542	QFV82AJ-104	0.1MF 100V THIN FILM	EN
	C542	QFV82AJ-104	0.1MF 100V THIN FILM	G
	C542	QFV82AJ-104	0.1MF 100V THIN FILM	GI
	C542	QFN82AJ-103	0.01MF 100V MYLAR CAPA	U
	C542	QFN82AJ-103	0.01MF 100V MYLAR CAPA	US
	C542	QFN82AJ-103	0.01MF 100V MYLAR CAPA	UT
	C542	QFV82AJ-104	0.1MF 100V THIN FILM	VX
	C543	QFN82AJ-103	0.01MF 100V MYLAR CAPA	A
	C543	QFV82AJ-104	0.1MF 100V THIN FILM	BS
	C543	QFV82AJ-104	0.1MF 100V THIN FILM	EF
	C543	QFV82AJ-104	0.1MF 100V THIN FILM	EN
	C543	QFV82AJ-104	0.1MF 100V THIN FILM	G
	C543	QFV82AJ-104	0.1MF 100V THIN FILM	GI
	C543	QFN82AJ-103	0.01MF 100V MYLAR CAPA	U
	C543	QFN82AJ-103	0.01MF 100V MYLAR CAPA	US
	C543	QFN82AJ-103	0.01MF 100V MYLAR CAPA	UT
	C543	QFV82AJ-104	0.1MF 100V THIN FILM	VX
	C544	QETM1VM-228J7	2200MF 35V E.CAPACITO	
	C545	QETM1VM-228J7	2200MF 35V E.CAPACITO	
	C551	QETB1CM-226	22MF 16V E.CAPACITO	
	C552	QEHC1EM-106ZJ7	10MF 25V ELECTRO	
	C553	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C554	QETB1AM-476	47MF 10V E.CAPACITO	
	C555	QETB1EM-106	10MF 25V AL E.CAPAC	
	C556	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C557	QETB1CM-226	22MF 16V E.CAPACITO	
	C558	QCF21HP-103A	0.01MF 50V CER.CAPACI	
	C559	QETB1EM-106	10MF 25V AL E.CAPAC	
	C560	QEHC1AM-476	47MF 10V E.CAPACITO	
	C562	QFN81HJ-103	0.01MF 50V METAL.MYLA	
	C563	QEHC1EM-106ZJ7	10MF 25V ELECTRO	
	C564	QETB1AM-476	47MF 10V E.CAPACITO	
	C565	QFN81HJ-103	0.01MF 50V METAL.MYLA	
	C566	QETB1EM-106	10MF 25V AL E.CAPAC	
	C571	QETB1HM-225	2.2MF 50V AL E.CAPAC	
	C573	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C574	QETB1HM-226E	22MF 50V E.CAPACITO	
	C575	QETB1HM-226E	22MF 50V E.CAPACITO	
	C576	QETB1JM-476	47MF 63V AL E.CAPAC	
	C577	QETB1JM-107	100MF 63V AL E.CAPAC	
	C578	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C580	QETB0JM-228	2200MF 6.3V AL E.CAPAC	
	C591	QETB1AM-476	47MF 10V E.CAPACITO	
	C592	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C595	QCF21HP-103A	0.01MF 50V CER.CAPACI	
	C596	QCF21HP-103A	0.01MF 50V CER.CAPACI	
	C802	QER61HM-105Z	1MF 50V AL E.CAPAC	
	C901	QETB1AM-107	100MF 10V AL E.CAPAC	
	C902	QCZ0205-155	1.5MF 25V C.CAPACITO	
	C921	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C922	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C923	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C924	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C925	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C926	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C927	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C928	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C941	QETB1CM-107	100MF 16V AL E.CAPAC	
	C942	QETB1CM-107	100MF 16V AL E.CAPAC	
	C951	QETB1AM-107	100MF 10V AL E.CAPAC	
	C952	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C953	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C999	QETB1CM-476	47MF 16V AL E.CAPAC	
	C1002	QETB1CM-226	22MF 16V E.CAPACITO	U
	C1002	QETB1CM-226	22MF 16V E.CAPACITO	US
	C1002	QETB1CM-226	22MF 16V E.CAPACITO	UT
	C1003	QFN81HJ-104	0.1MF 50V METAL.MYLA	U
	C1003	QFN81HJ-104	0.1MF 50V METAL.MYLA	US
	C1003	QFN81HJ-104	0.1MF 50V METAL.MYLA	UT
	C1004	QETB1HM-474	0.47MF 50V ELECTRO	U
	C1004	QETB1HM-474	0.47MF 50V ELECTRO	US
	C1004	QETB1HM-474	0.47MF 50V ELECTRO	UT
	C1005	QCXB1CM-562Y	5600PF 16V CER.CAPACI	U
	C1005	QCXB1CM-562Y	5600PF 16V CER.CAPACI	US
	C1005	QCXB1CM-562Y	5600PF 16V CER.CAPACI	UT
	C1006	QCGB1HK-821	820PF 50V CER.CAPACI	U
	C1006	QCGB1HK-821	820PF 50V CER.CAPACI	US
	C1006	QCGB1HK-821	820PF 50V CER.CAPACI	UT
	C1007	QFN81HJ-183	0.018MF 50V METAL.MYLA	U
	C1007	QFN81HJ-183	0.018MF 50V METAL.MYLA	US

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C1007	QFN81HJ-183	0.018MF 50V METAL.MYLA	UT
	C1008	QFN81HJ-104	0.1MF 50V METAL.MYLA	U
	C1008	QFN81HJ-104	0.1MF 50V METAL.MYLA	US
	C1008	QFN81HJ-104	0.1MF 50V METAL.MYLA	UT
	C1009	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	U
	C1009	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	US
	C1009	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	UT
	C1011	QCGB1HK-821	820PF 50V CER.CAPACI	U
	C1011	QCGB1HK-821	820PF 50V CER.CAPACI	US
	C1011	QCGB1HK-821	820PF 50V CER.CAPACI	UT
	C1012	QCXB1CM-562Y	5600PF 16V CER.CAPACI	U
	C1012	QCXB1CM-562Y	5600PF 16V CER.CAPACI	US
	C1012	QCXB1CM-562Y	5600PF 16V CER.CAPACI	UT
	C1013	QFN81HJ-183	0.018MF 50V METAL.MYLA	U
	C1013	QFN81HJ-183	0.018MF 50V METAL.MYLA	US
	C1013	QFN81HJ-183	0.018MF 50V METAL.MYLA	UT
	C1014	QETB1HM-474	0.47MF 50V ELECTRO	U
	C1014	QETB1HM-474	0.47MF 50V ELECTRO	US
	C1014	QETB1HM-474	0.47MF 50V ELECTRO	UT
	C1015	QFV81HJ-104	0.1MF 50V THIN FILM	U
	C1015	QFV81HJ-104	0.1MF 50V THIN FILM	US
	C1015	QFV81HJ-104	0.1MF 50V THIN FILM	UT
	C1016	QETB1HM-105	1MF 50V AL E.CAPAC	U
	C1016	QETB1HM-105	1MF 50V AL E.CAPAC	US
	C1016	QETB1HM-105	1MF 50V AL E.CAPAC	UT
	C1017	QFV81HJ-104	0.1MF 50V THIN FILM	U
	C1017	QFV81HJ-104	0.1MF 50V THIN FILM	US
	C1017	QFV81HJ-104	0.1MF 50V THIN FILM	UT
	C1018	QFN81HJ-104	0.1MF 50V METAL.MYLA	U
	C1018	QFN81HJ-104	0.1MF 50V METAL.MYLA	US
	C1018	QFN81HJ-104	0.1MF 50V METAL.MYLA	UT
	C1019	QETB1CM-476	47MF 16V AL E.CAPAC	U
	C1019	QETB1CM-476	47MF 16V AL E.CAPAC	US
	C1019	QETB1CM-476	47MF 16V AL E.CAPAC	UT
	C1020	QFN81HJ-104	0.1MF 50V METAL.MYLA	U
	C1020	QFN81HJ-104	0.1MF 50V METAL.MYLA	US
	C1020	QFN81HJ-104	0.1MF 50V METAL.MYLA	UT
	C1021	QCS21HJ-221	220PF 50V CER.CAPACI	U
	C1021	QCS21HJ-221	220PF 50V CER.CAPACI	US
	C1021	QCS21HJ-221	220PF 50V CER.CAPACI	UT
	C1022	QETB1CM-107	100MF 16V AL E.CAPAC	U
	C1022	QETB1CM-107	100MF 16V AL E.CAPAC	US
	C1022	QETB1CM-107	100MF 16V AL E.CAPAC	UT
	C1023	QFN81HJ-103	0.01MF 50V METAL.MYLA	U
	C1023	QFN81HJ-103	0.01MF 50V METAL.MYLA	US
	C1023	QFN81HJ-103	0.01MF 50V METAL.MYLA	UT
	C1024	QCS21HJ-101A	100PF 50V CER.CAPACI	U
	C1024	QCS21HJ-101A	100PF 50V CER.CAPACI	US
	C1024	QCS21HJ-101A	100PF 50V CER.CAPACI	UT
	C1025	QCS21HJ-101A	100PF 50V CER.CAPACI	U
	C1025	QCS21HJ-101A	100PF 50V CER.CAPACI	US
	C1025	QCS21HJ-101A	100PF 50V CER.CAPACI	UT
	C1034	QCF31MP-473Z	0.047MF CERAMIC	U
	C1034	QCF31MP-473Z	0.047MF CERAMIC	US
	C1034	QCF31MP-473Z	0.047MF CERAMIC	UT
	C1051	QETB1EM-106	10MF 25V AL E.CAPAC	U
	C1051	QETB1EM-106	10MF 25V AL E.CAPAC	US
	C1051	QETB1EM-106	10MF 25V AL E.CAPAC	UT
	C1057	QETB1EM-476	47MF 25V AL E.CAPAC	U
	C1057	QETB1EM-476	47MF 25V AL E.CAPAC	US
	C1057	QETB1EM-476	47MF 25V AL E.CAPAC	UT
	C1061	QCS31HJ-391Z	390PF 50V CER.CAPACI	A
	C1061	QCS31HJ-391Z	390PF 50V CER.CAPACI	BS
	C1061	QCS31HJ-391Z	390PF 50V CER.CAPACI	EF
	C1061	QCS31HJ-391Z	390PF 50V CER.CAPACI	EN
	C1061	QCS31HJ-391Z	390PF 50V CER.CAPACI	G
	C1061	QCS31HJ-391Z	390PF 50V CER.CAPACI	GI
	C1061	QCS31HJ-391Z	390PF 50V CER.CAPACI	VX
	C1062	QFV81HJ-104	0.1MF 50V THIN FILM	A
	C1062	QFV81HJ-104	0.1MF 50V THIN FILM	BS
	C1062	QFV81HJ-104	0.1MF 50V THIN FILM	EF
	C1062	QFV81HJ-104	0.1MF 50V THIN FILM	EN
	C1062	QFV81HJ-104	0.1MF 50V THIN FILM	G
	C1062	QFV81HJ-104	0.1MF 50V THIN FILM	GI
	C1062	QFV81HJ-104	0.1MF 50V THIN FILM	VX
	C1063	QETB1EM-106	10MF 25V AL E.CAPAC	U
	C1063	QETB1EM-106	10MF 25V AL E.CAPAC	US
	C1063	QETB1EM-106	10MF 25V AL E.CAPAC	UT

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R501	QRD161J-102	1K 1/6W CARBON RES	
	R502	QRD161J-102	1K 1/6W CARBON RES	
	R503	QRD161J-104	100K 1/6W CARBON RES	
	R504	QRD161J-104	100K 1/6W CARBON RES	
	R505	ERD004J-821Z	820 CARBON RES	
	R506	ERD004J-821Z	820 CARBON RES	
	R507	QRD161J-821	820 1/6W CARBON RES	
	R508	QRD161J-821	820 1/6W CARBON RES	
	R509	QRD161J-104	100K 1/6W CARBON RES	
	R510	QRD161J-104	100K 1/6W CARBON RES	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R511	QRD161J-242	2.4K 1/6W CARBON RES	
	R512	QRD161J-242	2.4K 1/6W CARBON RES	
	R513	QRD161J-242	2.4K 1/6W CARBON RES	
	R514	QRD161J-242	2.4K 1/6W CARBON RES	
⚠	R515	QRX014J-R22	0.22 1W METAL FILM	
⚠	R516	QRX014J-R22	0.22 1W METAL FILM	
⚠	R517	QRZ0077-101	100 1/4W FUSIBLE RE	
⚠	R518	QRZ0077-100	10 1/4W FUSIBLE RE	
	R519	QRZ0077-222X	2.2K 1/4W FUSIBLE RE	
	R520	QRZ0077-222X	2.2K 1/4W FUSIBLE RE	
⚠	R521	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	
⚠	R522	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	
	R523	QRZ0077-222X	2.2K 1/4W FUSIBLE RE	
⚠	R524	QRZ0077-100	10 1/4W FUSIBLE RE	
⚠	R525	QRZ0077-100	10 1/4W FUSIBLE RE	
	R526	QRD161J-333	33K 1/6W CARBON RES	
	R527	QRD161J-333	33K 1/6W CARBON RES	
	R528	QRD161J-104	100K 1/6W CARBON RES	
	R529	QRD161J-823	82K 1/6W CARBON RES	
⚠	R531	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	
⚠	R532	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	
	R538	QRD161J-103	10K 1/6W CARBON RES	
	R539	QRD167J-153	15K 1/6W CARBON RES	
	R540	QRD161J-104	100K 1/6W CARBON RES	
	R541	QRD167J-152	1.5K 1/6W CARBON RES	
	R542	QRD161J-222	2.2K 1/6W CARBON RES	
	R545	QRG012J-471A	470 1W OXIDE META	
	R547	QRD161J-102	1K 1/6W CARBON RES	
	R548	QRD161J-102	1K 1/6W CARBON RES	
	R551	QRD167J-332	3.3K 1/6W CARBON RES	
	R552	QRD161J-392	3.9K 1/6W CARBON RES	
	R553	QRD167J-332	3.3K 1/6W CARBON RES	
	R555	QRD167J-682	6.8K 1/6W CARBON RES	
	R556	QRD167J-153	15K 1/6W CARBON RES	
	R558	QRD167J-332	3.3K 1/6W CARBON RES	
	R559	QRD167J-332	3.3K 1/6W CARBON RES	
⚠	R561	QRZ0077-681	680 1/4W FUSIBLE RE	
⚠	R562	QRZ0077-681	680 1/4W FUSIBLE RE	
⚠	R563	QRZ0077-681	680 1/4W FUSIBLE RE	
⚠	R564	QRZ0077-681	680 1/4W FUSIBLE RE	
	R565	QRD161J-473	47K 1/6W CARBON RES	
	R566	QRD161J-473	47K 1/6W CARBON RES	
⚠	R567	QRZ0077-8R2	8.2 1/4W FUSIBLE RE	
⚠	R568	QRZ0077-8R2	8.2 1/4W FUSIBLE RE	
	R573	QRD161J-102	1K 1/6W CARBON RES	
	R574	QRD161J-103	10K 1/6W CARBON RES	
	R575	QRD161J-103	10K 1/6W CARBON RES	
	R576	QRD167J-562	5.6K 1/6W CARBON RES	
⚠	R577	PTH61G25AR4R7M	POSITIVE T	
	R580	QRD161J-470	47 1/6W CARBON RES	
	R581	QRD161J-101	100 1/6W CARBON RES	
	R582	QRD161J-101	100 1/6W CARBON RES	
	R583	QRD161J-101	100 1/6W CARBON RES	
	R584	QRD161J-101	100 1/6W CARBON RES	
⚠	R585	QRZ0077-100	10 1/4W FUSIBLE RE	
⚠	R586	QRZ0077-100	10 1/4W FUSIBLE RE	
⚠	R587	QRZ0077-4R7	4.7 1/4W FUSE RESIS	
⚠	R588	QRZ0077-4R7	4.7 1/4W FUSE RESIS	
⚠	R589	QRZ0077-4R7	4.7 1/4W FUSE RESIS	
⚠	R590	QRZ0077-4R7	4.7 1/4W FUSE RESIS	
	R591	QRD161J-222	2.2K 1/6W CARBON RES	
⚠	R592	QRX014J-4R7X	4.7 1W METAL FILM	
⚠	R595	QRD14CJ-3R9S	3.9 1/4W UNF.CARBON	
⚠	R596	QRD14CJ-3R9S	3.9 1/4W UNF.CARBON	
	R597	QRD161J-102	1K 1/6W CARBON RES	
	R807	QRD161J-103	10K 1/6W CARBON RES	
	R810	QRD161J-103	10K 1/6W CARBON RES	
	R811	QRD161J-104	100K 1/6W CARBON RES	
	R901	QRD161J-105	1M 1/6W CARBON RES	
	R902	QRD161J-103	10K 1/6W CARBON RES	
	R903	QRD167J-223	22K 1/6W CARBON RES	
	R904	QRD161J-103	10K 1/6W CARBON RES	
	R905	QRD161J-102	1K 1/6W CARBON RES	
	R906	QRD161J-102	1K 1/6W CARBON RES	
	R907	QRD161J-102	1K 1/6W CARBON RES	
	R908	QRD161J-473	47K 1/6W CARBON RES	
	R909	QRD167J-223	22K 1/6W CARBON RES	
	R911	QRD161J-103	10K 1/6W CARBON RES	
	R912	QRD161J-103	10K 1/6W CARBON RES	
	R913	QRD161J-392	3.9K 1/6W CARBON RES	
	R914	QRD161J-242	2.4K 1/6W CARBON RES	
	R915	QRD167J-153	15K 1/6W CARBON RES	
	R925	QRD161J-432	4.3K 1/6W CARBON RES	
	R926	QRD161J-432	4.3K 1/6W CARBON RES	
	R927	QRD161J-103	10K 1/6W CARBON RES	
	R928	QRD161J-103	10K 1/6W CARBON RES	
	R929	QRD161J-913	91K 1/6W CARBON RES	
	R930	QRD161J-913	91K 1/6W CARBON RES	
	R931	QRD167J-822	8.2K 1/6W CARBON RES	
	R932	QRD167J-822	8.2K 1/6W CARBON RES	
	R933	QRD161J-163	16K 1/6W CARBON RES	
	R934	QRD161J-163	16K 1/6W CARBON RES	
	R942	QRD161J-103	10K 1/6W CARBON RES	
	R945	QRD161J-224	220K 1/6W CARBON RES	
	R946	QRD161J-224	220K 1/6W CARBON RES	

⚠ : SAFETY PARTS

RESISTORS

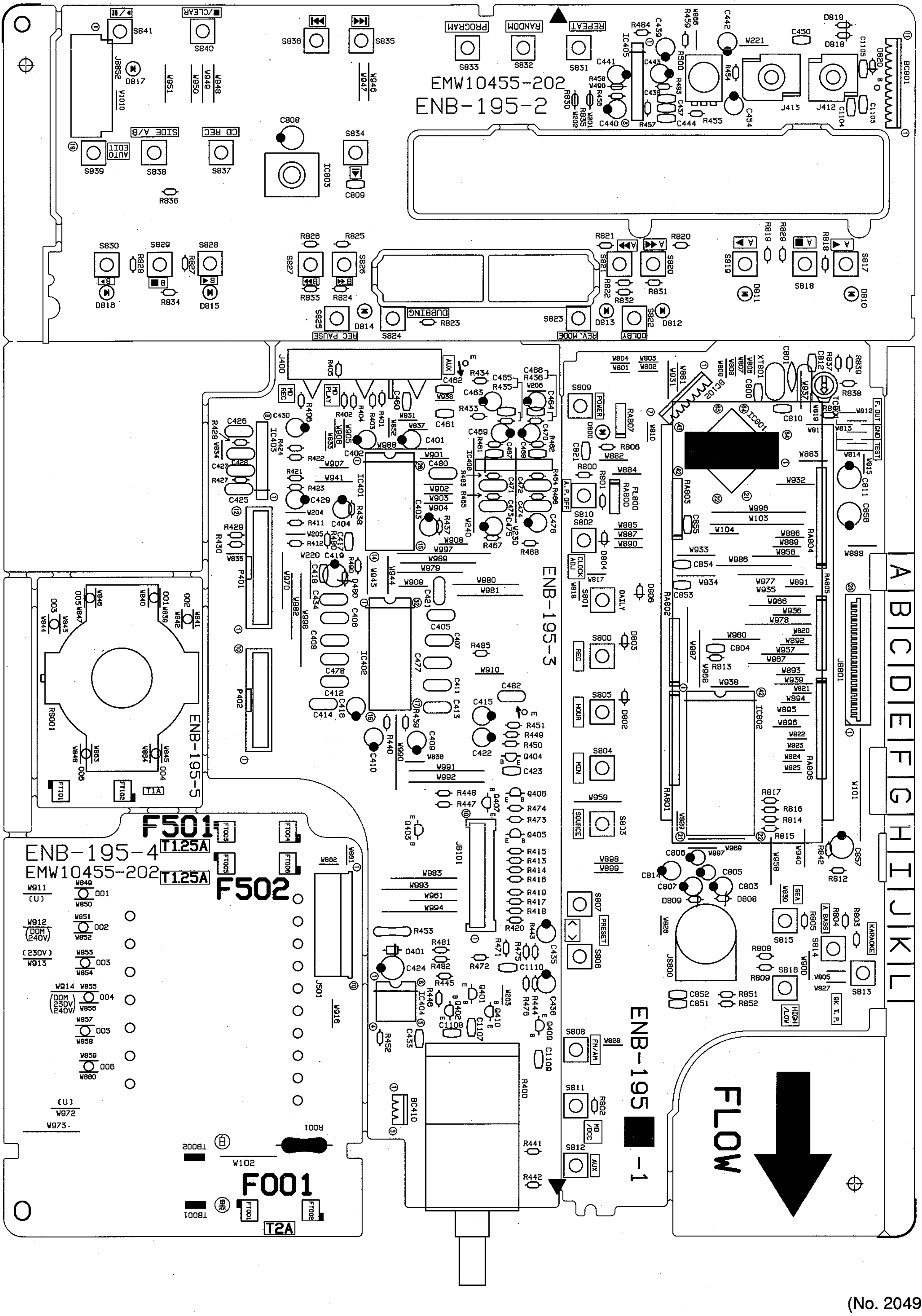
⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R948	QVPA603-103A	10K		TRIMMER RE	
	R950	QRD161J-133Y	13K	1/6W	CARBON RES	
	R951	QRD161J-683	68K	1/6W	CARBON RES	
	R952	QRD161J-105	1M	1/6W	CARBON RES	
	R997	QRD167J-562	5.6K	1/6W	CARBON RES	
	R998	QRD161J-104	100K	1/6W	CARBON RES	
	R999	QRD161J-274	270K	1/6W	CARBON RES	
	RA901	QRB049J-102	1K	1/10W	NETWORK RE	
	RA902	QRB089J-103	10K	1/10W	NETWORK RE	
	RA903	QRB079J-222	2.2K	1/10W	NETWORK RE	
	RA911	QRB049J-102	1K	1/10W	NETWORK RE	
	RA951	QRB049J-103	10K	1/10W	RESISTOR	
	RA952	QRB049J-103	10K	1/10W	RESISTOR	
	R1001	QRD167J-152	1.5K	1/6W	CARBON RES	U
	R1001	QRD167J-152	1.5K	1/6W	CARBON RES	US
	R1001	QRD167J-152	1.5K	1/6W	CARBON RES	UT
	R1002	QRD161J-123	12K	1/6W	CARBON RES	U
	R1002	QRD161J-123	12K	1/6W	CARBON RES	US
	R1002	QRD161J-123	12K	1/6W	CARBON RES	UT
	R1003	QRD161J-103	10K	1/6W	CARBON RES	U
	R1003	QRD161J-103	10K	1/6W	CARBON RES	US
	R1003	QRD161J-103	10K	1/6W	CARBON RES	UT
	R1004	QRD161J-103	10K	1/6W	CARBON RES	U
	R1004	QRD161J-103	10K	1/6W	CARBON RES	US
	R1004	QRD161J-103	10K	1/6W	CARBON RES	UT
	R1005	QRD161J-103	10K	1/6W	CARBON RES	U
	R1005	QRD161J-103	10K	1/6W	CARBON RES	US
	R1005	QRD161J-103	10K	1/6W	CARBON RES	UT
	R1010	QRD161J-472	4.7K	1/6W	CARBON RES	U
	R1010	QRD161J-472	4.7K	1/6W	CARBON RES	US
	R1010	QRD161J-472	4.7K	1/6W	CARBON RES	UT
	R1011	QRD161J-103	10K	1/6W	CARBON RES	U
	R1011	QRD161J-103	10K	1/6W	CARBON RES	US
	R1011	QRD161J-103	10K	1/6W	CARBON RES	UT
	R1012	QRD161J-103	10K	1/6W	CARBON RES	U
	R1012	QRD161J-103	10K	1/6W	CARBON RES	US
	R1012	QRD161J-103	10K	1/6W	CARBON RES	UT
	R1013	QRD161J-103	10K	1/6W	CARBON RES	U
	R1013	QRD161J-103	10K	1/6W	CARBON RES	US
	R1013	QRD161J-103	10K	1/6W	CARBON RES	UT
	R1021	QRD161J-105	1M	1/6W	CARBON RES	U
	R1021	QRD161J-105	1M	1/6W	CARBON RES	US
	R1021	QRD161J-105	1M	1/6W	CARBON RES	UT
	R1022	QRD167J-682	6.8K	1/6W	CARBON RES	U
	R1022	QRD167J-682	6.8K	1/6W	CARBON RES	US
	R1022	QRD167J-682	6.8K	1/6W	CARBON RES	UT
	R1031	QRD161J-221	220	1/6W	CARBON RES	U
	R1031	QRD161J-221	220	1/6W	CARBON RES	US
	R1031	QRD161J-221	220	1/6W	CARBON RES	UT
	R1035	QRD161J-303Y	30K	1/6W	CARBON RES	U
	R1035	QRD161J-303Y	30K	1/6W	CARBON RES	US
	R1035	QRD161J-303Y	30K	1/6W	CARBON RES	UT
	R1036	QRD161J-563	56K	1/6W	CARBON RES	U
	R1036	QRD161J-563	56K	1/6W	CARBON RES	US
	R1036	QRD161J-563	56K	1/6W	CARBON RES	UT
	R1037	QRD161J-243	24K	1/6W	CARBON RES	U
	R1037	QRD161J-243	24K	1/6W	CARBON RES	US
	R1037	QRD161J-243	24K	1/6W	CARBON RES	UT
	R1038	QRD161J-123	12K	1/6W	CARBON RES	U
	R1038	QRD161J-123	12K	1/6W	CARBON RES	US
	R1038	QRD161J-123	12K	1/6W	CARBON RES	UT
	R1051	QRD161J-105	1M	1/6W	CARBON RES	U
	R1051	QRD161J-105	1M	1/6W	CARBON RES	US
	R1051	QRD161J-105	1M	1/6W	CARBON RES	UT
	R1052	QRD161J-222	2.2K	1/6W	CARBON RES	U
	R1052	QRD161J-222	2.2K	1/6W	CARBON RES	US
	R1052	QRD161J-222	2.2K	1/6W	CARBON RES	UT
	R1053	QRD161J-102	1K	1/6W	CARBON RES	U
	R1053	QRD161J-102	1K	1/6W	CARBON RES	US
	R1053	QRD161J-102	1K	1/6W	CARBON RES	UT
	R1054	QRD161J-102	1K	1/6W	CARBON RES	U
	R1054	QRD161J-102	1K	1/6W	CARBON RES	US
	R1054	QRD161J-102	1K	1/6W	CARBON RES	UT
	R1057	QRD167J-151	150	1/6W	CARBON RES	U
	R1057	QRD167J-151	150	1/6W	CARBON RES	US
	R1057	QRD167J-151	150	1/6W	CARBON RES	UT
	R1061	QRD161J-472	4.7K	1/6W	CARBON RES	U
	R1061	QRD161J-472	4.7K	1/6W	CARBON RES	US
	R1061	QRD161J-472	4.7K	1/6W	CARBON RES	UT
	R1101	QRD161J-221	220	1/6W	CARBON RES	U
	R1101	QRD161J-221	220	1/6W	CARBON RES	US
	R1101	QRD161J-221	220	1/6W	CARBON RES	UT
	R1102	QRD167J-332	3.3K	1/6W	CARBON RES	U
	R1102	QRD167J-332	3.3K	1/6W	CARBON RES	US
	R1102	QRD167J-332	3.3K	1/6W	CARBON RES	UT

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMW10456-007		
		QWE350-14A1A1	VINYL WIRE	A
		QWE350-14A1A1	VINYL WIRE	BS
		QWE350-14A1A1	VINYL WIRE	EF
		QWE350-14A1A1	VINYL WIRE	EN
		QWE350-14A1A1	VINYL WIRE	G
		QWE350-14A1A1	VINYL WIRE	GI
		QWE350-14A1A1	VINYL WIRE	VX
		VYH7653-001	SPRING	
		VYSH101-007	SPACER	U
		VYSH101-007	SPACER	US
		VYSH101-007	SPACER	UT
	J401	EMV5163-012R	CONNECT TER	
	J402	EMV5163-010R	CONNECT TER	
	J410	EMV5109-003B	CONNECT TER	
	J541	EMB90TV-403A	SPEAKER TER	
	J801	EMV5142-911	CONNECT TER	
	P303	VMC0314-S08	CONNECT TER	
	P304	VMC0314-S16	CONNECT TER	
	P921	VMC0234-P11	CONNECT TER	
	P922	VMC0234-P14	CONNECT TER	
	P923	VMC0234-P08	CONNECT TER	
	P924	VMC0234-P08	CONNECT TER	
	S501	QSS7A12-E01	SLIDE SWITC	BS
	S501	QSS7A12-E01	SLIDE SWITC	EF
	S501	QSS7A12-E01	SLIDE SWITC	EN
	S501	QSS7A12-E01	SLIDE SWITC	G
	S501	QSS7A12-E01	SLIDE SWITC	GI
	S501	QSS7A12-E01	SLIDE SWITC	VX
	EP701	E70225-003SS	EARTH PLATE	
	FW501	EWR3AD-20LS	FLAT WIRE A	
	JA511	EMV5163-009R	CONNECT TER	
	JA521	EMV5163-011R	CONNECT TER	
	JA601	VMC0161-R23	CONNECT TER	
	JA801	EMV7160-025	CONNECT TER	
	JA852	VMC0161-R19	CONNECT TER	
	JB511	EMV7163-009	CONNECT TER	
	JB521	EMV7163-011	CONNECT TER	
	RY501	ESK7D24-2120	RELAY	
	XT102	ECX0000-400KS	CERAMIC RES	U
	XT102	ECX0000-400KS	CERAMIC RES	US
	XT102	ECX0000-400KS	CERAMIC RES	UT
	XT901	ECX0004-194KM	CERAMIC RES	
	XT951	ECX0060-000EM	CERAMIC RES	

■ ENB-195 ☐ Front & Audio Selector PC Board Ass'y

Note : ENB-195 ☐ varies according to the areas employd. See note (1) when placing an order.



ENB-195-2
EMW10455-202
ENB-195-3
ENB-195-4
EMW10455-202
ENB-195-5
ENB-195 ■ -1
FLOW
F501
F502
F001
T1.25A
T1.25A
T2A
T1A
PROGRAM
RANDOM
REPEAT
■/CLEAR
SIDE A/B
CD REC
AUTO EDIT
DUBBING
REC PAUSE
REV. MODE
DOLBY
POWER
A.P. OFF
CLOCK ADJ
DAILY
REC
HOUR
MIN
SOURCE
PRESET
FM/AM
MD /DCC
AUX
SEA
A.BASS
KARAOKE
HIGH /LOW
OK T.P.
F.OUT
GND
TEST
MD REC
MD PLAY
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S840
S836
S835
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IC401
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IC803
J400
J412
J413
J501
JS800
JB101
JB801
JB852
BC801
BC802
BC410
RS001
P401
P402
R400
R001
TB001
TB002
FT001
FT002
FT003
FT004
FT005
FT006
FT101
FT102
FL800
X1801
D401
D800
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W104
W1010
A
B
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Note (1)

PC Board Ass'y	Version	Dasignated Areas
ENB-195 C	BS	the U.K.
ENB-195 D	A	Australia
ENB-195 E	EN EF	Scandinavia Continental Europe
ENB-195 F	U UT US	Universal Type Taiwan Singapore
ENB-195 G	G GI	Germany Italy
ENB-195 H	VX	East Europe

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q401	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q402	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q403	DTA144ES	DIGITAL TRA ROHM	
	Q404	2SC3311A(Q,R)	SI.TRANSIST MATSUSHITA	
	Q409	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q410	2SD2144S(VW)	SI.TRANSIST ROHM	

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC401	TC9164N	I.C(DIGI-MO TOSHIBA	
	IC402	M62417SP	I.C(M) MITSUBISHI	
	IC403	NJM4580LD	I.C(MONO-AN DAINICHI	
	IC404	LB1639-CV	I.C(DIGI-OT SANYO	
	IC405	BA15218N	I.C(MONO-AN ROHM	
	IC406	NJM4580LD	I.C(MONO-AN DAINICHI	
	IC801	MN172412J5E	I.C(MICRO-C MATSUSHITA	
	IC802	XR1095CP	I.C(MONO-AN EXAR JAPAN	
	IC803	NJH32H380A	I.C(M) DAINICHI	

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D401	1SR139-200	SI.DIODE ROHM	
	D480	MTZ5.1JB	ZENER DIODE ROHM	
	D800	SLR-342VC3F	L.E.D. ROHM	A
	D800	SLA-380LT	L.E.D. ROHM	BS
	D800	SLR-342VC3F	L.E.D. ROHM	EF
	D800	SLR-342VC3F	L.E.D. ROHM	EN
	D800	SLR-342VC3F	L.E.D. ROHM	G
	D800	SLR-342VC3F	L.E.D. ROHM	GI
	D800	SLR-342VC3F	L.E.D. ROHM	U
	D800	SLR-342VC3F	L.E.D. ROHM	US
	D800	SLR-342VC3F	L.E.D. ROHM	UT
	D800	SLR-342VC3F	L.E.D. ROHM	VX
	D802	1SS133	SI.DIODE ROHM	
	D803	1SS133	SI.DIODE ROHM	
	D804	1SS133	SI.DIODE ROHM	
	D806	1SS133	SI.DIODE ROHM	
	D808	MTZ5.1JC	ZENER DIODE ROHM	
	D809	MTZ5.1JC	ZENER DIODE ROHM	
	D810	SLR-342MCA47	L.E.D. ROHM	
	D811	SLR-342MCA47	L.E.D. ROHM	
	D812	SLR-342VC3F	L.E.D. ROHM	
	D813	SLR-342VC3F	L.E.D. ROHM	
	D814	SLR-342VC3F	L.E.D. ROHM	
	D815	SLR-342MCA47	L.E.D. ROHM	
	D816	SLR-342MCA47	L.E.D. ROHM	
	D817	SLR-342MCA47	L.E.D. ROHM	
	D818	1SS133	SI.DIODE ROHM	
	D819	1SS133	SI.DIODE ROHM	
	D820	1SS133	SI.DIODE ROHM	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C401	QETB1EM-107	100MF 25V AL E.CAPAC	
	C402	QETB1EM-107	100MF 25V AL E.CAPAC	
	C403	QETB1EM-106	10MF 25V AL E.CAPAC	
	C404	QETB1EM-106	10MF 25V AL E.CAPAC	
	C405	QFV71HJ-683ZM	0.068MF 50V THIN FILM	
	C406	QFV71HJ-683ZM	0.068MF 50V THIN FILM	
	C407	QFV11HJ-184AZM	0.18MF 50V THIN FILM	
	C408	QFV11HJ-184AZM	0.18MF 50V THIN FILM	
	C409	QETB1EM-106	10MF 25V AL E.CAPAC	
	C410	QETB1EM-106	10MF 25V AL E.CAPAC	
	C411	QFV71HJ-474ZM	0.47MF 50V THIN FILM	
	C412	QFV71HJ-474ZM	0.47MF 50V THIN FILM	
	C413	QFV71HJ-683ZM	0.068MF 50V THIN FILM	
	C414	QFV71HJ-683ZM	0.068MF 50V THIN FILM	
	C415	QETB1HM-105	1MF 50V AL E.CAPAC	
	C416	QETB1HM-105	1MF 50V AL E.CAPAC	
	C417	QCBB1HK-561Y	560PF 50V CER.CAPACI	
	C418	QCBB1HK-561Y	560PF 50V CER.CAPACI	
	C419	QETB1AM-107	100MF 10V AL E.CAPAC	
	C421	QFV81HJ-103	0.01MF 50V THIN FILM	
	C422	QETB1HM-474	0.47MF 50V ELECTRO	
	C423	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C424	QETB1AM-107	100MF 10V AL E.CAPAC	
	C425	QFN81HJ-472	4700PF 50V MYLAR CAPA	
	C426	QFN81HJ-472	4700PF 50V MYLAR CAPA	
	C427	QFN81HJ-821	820PF 50V MYLAR CAPA	
	C428	QFN81HJ-821	820PF 50V MYLAR CAPA	
	C429	QETB1HM-106	10MF 50V E.CAPACITO	
	C430	QETB1HM-106	10MF 50V E.CAPACITO	
	C433	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C434	QFV81HJ-104	0.1MF 50V THIN FILM	
	C435	QETB1HM-474	0.47MF 50V ELECTRO	
	C436	QETB1HM-474	0.47MF 50V ELECTRO	
	C437	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C438	QCBB1HK-181Y	180PF 50V CER.CAPACI	A
	C438	QCBB1HK-181Y	180PF 50V CER.CAPACI	BS
	C438	QCBB1HK-181Y	180PF 50V CER.CAPACI	EF
	C438	QCBB1HK-181Y	180PF 50V CER.CAPACI	EN
	C438	QCBB1HK-181Y	180PF 50V CER.CAPACI	G
	C438	QCBB1HK-181Y	180PF 50V CER.CAPACI	GI
	C438	QCBB1HK-181Y	180PF 50V CER.CAPACI	VX
	C439	QETB1EM-106	10MF 25V AL E.CAPAC	
	C440	QETB1EM-106	10MF 25V AL E.CAPAC	
	C441	QETB1EM-106	10MF 25V AL E.CAPAC	
	C442	QETB1EM-106	10MF 25V AL E.CAPAC	
	C443	QETB1AM-107	100MF 10V AL E.CAPAC	
	C444	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C450	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	U
	C450	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	US
	C450	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	UT
	C454	QETB1EM-106	10MF 25V AL E.CAPAC	
	C460	QCBB1HK-331Y	330PF 50V CER.CAPACI	A
	C460	QCBB1HK-331Y	330PF 50V CER.CAPACI	BS
	C460	QCBB1HK-331Y	330PF 50V CER.CAPACI	EF
	C460	QCBB1HK-331Y	330PF 50V CER.CAPACI	EN
	C460	QCBB1HK-331Y	330PF 50V CER.CAPACI	G
	C460	QCBB1HK-331Y	330PF 50V CER.CAPACI	GI
	C460	QCBB1HK-331Y	330PF 50V CER.CAPACI	VX
	C461	QCBB1HK-331Y	330PF 50V CER.CAPACI	
	C462	QCBB1HK-331Y	330PF 50V CER.CAPACI	
	C463	QETB1EM-106	10MF 25V AL E.CAPAC	
	C464	QETB1EM-106	10MF 25V AL E.CAPAC	
	C465	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C466	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C467	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C468	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C469	QETB1EM-106	10MF 25V AL E.CAPAC	
	C470	QETB1EM-106	10MF 25V AL E.CAPAC	
	C471	QFN81HJ-682	6800PF 50V METAL.MYLA	
	C472	QFN81HJ-682	6800PF 50V METAL.MYLA	
	C473	QFN81HJ-182	1800PF 50V METAL.MYLA	
	C474	QFN81HJ-182	1800PF 50V METAL.MYLA	
	C475	QETB1EM-106	10MF 25V AL E.CAPAC	
	C476	QETB1EM-106	10MF 25V AL E.CAPAC	
	C477	QFN31HJ-332Z	3300PF 50V MYLAR CAPA	
	C478	QFN31HJ-332Z	3300PF 50V MYLAR CAPA	
	C480	QFN81HJ-103	0.01MF 50V METAL.MYLA	
	C482	QFN81HJ-103	0.01MF 50V METAL.MYLA	
	C800	QCFB1HZ-104Y	0.1MF 50V CER.CAPACI	
	C801	QCT26CH-330	33PF 50V CER.CAPACI	
	C803	QER50JM-476	47MF 6.3V AL E.CAPAC	
	C804	QCXB1CM-152Y	1500PF 16V CER.CAPACI	
	C805	QEK51HM-225G	2.2MF 50V AL E.CAPAC	
	C806	QEK51HM-225G	2.2MF 50V AL E.CAPAC	
	C807	QER50JM-476	47MF 6.3V AL E.CAPAC	
	C808	QER50JM-107	100MF 6.3V AL E.CAPAC	
	C809	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C810	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C811	QER61AM-107Z	100MF 10V AL E.CAPAC	
	C812	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C814	QEK51HM-475	4.7MF 50V AL E.CAPAC	
	C851	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C852	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C853	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C854	QCBB1HK-101Y	100PF 50V CER.CAPACI	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C855	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C856	QETB1HM-476	47MF 50V E.CAPACITO	
	C857	QETB1HM-476	47MF 50V E.CAPACITO	
	C1103	QCBB1HK-471Y	470PF 50V CER.CAPACI	A
	C1103	QCBB1HK-471Y	470PF 50V CER.CAPACI	BS
	C1103	QCBB1HK-471Y	470PF 50V CER.CAPACI	EF
	C1103	QCBB1HK-471Y	470PF 50V CER.CAPACI	EN
	C1103	QCBB1HK-471Y	470PF 50V CER.CAPACI	G
	C1103	QCBB1HK-471Y	470PF 50V CER.CAPACI	GI
	C1103	QCBB1HK-471Y	470PF 50V CER.CAPACI	VX
	C1104	QCBB1HK-471Y	470PF 50V CER.CAPACI	A
	C1104	QCBB1HK-471Y	470PF 50V CER.CAPACI	BS
	C1104	QCBB1HK-471Y	470PF 50V CER.CAPACI	EF
	C1104	QCBB1HK-471Y	470PF 50V CER.CAPACI	EN
	C1104	QCBB1HK-471Y	470PF 50V CER.CAPACI	G
	C1104	QCBB1HK-471Y	470PF 50V CER.CAPACI	GI
	C1104	QCBB1HK-471Y	470PF 50V CER.CAPACI	VX
	C1105	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	A
	C1105	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	BS
	C1105	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	EF
	C1105	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	EN
	C1105	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	G
	C1105	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	GI
	C1105	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	VX
	C1107	QCBB1HK-102Y	1000PF 50V CER.CAPACI	A
	C1107	QCBB1HK-102Y	1000PF 50V CER.CAPACI	BS
	C1107	QCBB1HK-102Y	1000PF 50V CER.CAPACI	EF
	C1107	QCBB1HK-102Y	1000PF 50V CER.CAPACI	EN
	C1107	QCBB1HK-102Y	1000PF 50V CER.CAPACI	G
	C1107	QCBB1HK-102Y	1000PF 50V CER.CAPACI	GI
	C1107	QCBB1HK-102Y	1000PF 50V CER.CAPACI	VX
	C1108	QCBB1HK-102Y	1000PF 50V CER.CAPACI	A
	C1108	QCBB1HK-102Y	1000PF 50V CER.CAPACI	BS
	C1108	QCBB1HK-102Y	1000PF 50V CER.CAPACI	EF
	C1108	QCBB1HK-102Y	1000PF 50V CER.CAPACI	EN
	C1108	QCBB1HK-102Y	1000PF 50V CER.CAPACI	G
	C1108	QCBB1HK-102Y	1000PF 50V CER.CAPACI	GI
	C1108	QCBB1HK-102Y	1000PF 50V CER.CAPACI	VX
	C1109	QCBB1HK-102Y	1000PF 50V CER.CAPACI	A
	C1109	QCBB1HK-102Y	1000PF 50V CER.CAPACI	BS
	C1109	QCBB1HK-102Y	1000PF 50V CER.CAPACI	EF
	C1109	QCBB1HK-102Y	1000PF 50V CER.CAPACI	EN
	C1109	QCBB1HK-102Y	1000PF 50V CER.CAPACI	G
	C1109	QCBB1HK-102Y	1000PF 50V CER.CAPACI	GI
	C1109	QCBB1HK-102Y	1000PF 50V CER.CAPACI	VX
	C1110	QCBB1HK-102Y	1000PF 50V CER.CAPACI	A
	C1110	QCBB1HK-102Y	1000PF 50V CER.CAPACI	BS
	C1110	QCBB1HK-102Y	1000PF 50V CER.CAPACI	EF
	C1110	QCBB1HK-102Y	1000PF 50V CER.CAPACI	EN
	C1110	QCBB1HK-102Y	1000PF 50V CER.CAPACI	G
	C1110	QCBB1HK-102Y	1000PF 50V CER.CAPACI	GI
	C1110	QCBB1HK-102Y	1000PF 50V CER.CAPACI	VX
	C1111	QCFB1HZ-473Y	0.047MF 50V CER.CAPACI	
	TC801	ENZ1003-015	0.1MF TRIMMER CA	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R400	QVDB94B-E15C	100K VARIABLE R	
	R401	QRD161J-273	27K 1/6W CARBON RES	
	R402	QRD161J-273	27K 1/6W CARBON RES	
	R403	QRD161J-473	47K 1/6W CARBON RES	
	R404	QRD161J-473	47K 1/6W CARBON RES	
	R411	QRD167J-272	2.7K 1/6W CARBON RES	
	R412	QRD167J-272	2.7K 1/6W CARBON RES	
	R413	QRD161J-122	1.2K 1/6W CARBON RES	
	R414	QRD161J-122	1.2K 1/6W CARBON RES	
	R415	QRD167J-153	15K 1/6W CARBON RES	
	R416	QRD167J-153	15K 1/6W CARBON RES	
	R417	QRD161J-122	1.2K 1/6W CARBON RES	
	R418	QRD161J-122	1.2K 1/6W CARBON RES	
	R419	QRD161J-222	2.2K 1/6W CARBON RES	
	R420	QRD161J-222	2.2K 1/6W CARBON RES	
	R421	QRD161J-182	1.8K 1/6W CARBON RES	A
	R421	QRD161J-182	1.8K 1/6W CARBON RES	BS
	R421	QRD161J-182	1.8K 1/6W CARBON RES	EF
	R421	QRD161J-182	1.8K 1/6W CARBON RES	EN
	R421	QRD161J-182	1.8K 1/6W CARBON RES	G
	R421	QRD161J-182	1.8K 1/6W CARBON RES	GI
	R421	QRD161J-182	1.8K 1/6W CARBON RES	VX
	R421	QRD167J-272	2.7K 1/6W CARBON RES	U
	R421	QRD167J-272	2.7K 1/6W CARBON RES	US
	R421	QRD167J-272	2.7K 1/6W CARBON RES	UT
	R422	QRD161J-182	1.8K 1/6W CARBON RES	A
	R422	QRD161J-182	1.8K 1/6W CARBON RES	BS
	R422	QRD161J-182	1.8K 1/6W CARBON RES	EF
	R422	QRD161J-182	1.8K 1/6W CARBON RES	EN
	R422	QRD161J-182	1.8K 1/6W CARBON RES	G
	R422	QRD161J-182	1.8K 1/6W CARBON RES	GI
	R422	QRD161J-182	1.8K 1/6W CARBON RES	VX
	R422	QRD167J-272	2.7K 1/6W CARBON RES	U
	R422	QRD167J-272	2.7K 1/6W CARBON RES	US
	R422	QRD167J-272	2.7K 1/6W CARBON RES	UT

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R423	QRD161J-911	910 1/6W CARBON RES	
	R424	QRD161J-911	910 1/6W CARBON RES	
	R427	QRD161J-222	2.2K 1/6W CARBON RES	
	R428	QRD161J-222	2.2K 1/6W CARBON RES	
	R429	QRD161J-222	2.2K 1/6W CARBON RES	
	R430	QRD161J-222	2.2K 1/6W CARBON RES	
	R433	QRD167J-223	22K 1/6W CARBON RES	
	R434	QRD167J-223	22K 1/6W CARBON RES	
	R435	QRD161J-473	47K 1/6W CARBON RES	
	R436	QRD161J-473	47K 1/6W CARBON RES	
	R437	QRD161J-104	100K 1/6W CARBON RES	
	R438	QRD161J-104	100K 1/6W CARBON RES	
	R439	QRD161J-471	470 1/6W CARBON RES	
	R440	QRD161J-471	470 1/6W CARBON RES	
	R441	QRD161J-203	20K 1/6W CARBON RES	
	R442	QRD161J-203	20K 1/6W CARBON RES	
	R443	QRD167J-682	6.8K 1/6W CARBON RES	
	R444	QRD167J-682	6.8K 1/6W CARBON RES	
	R445	QRD161J-103	10K 1/6W CARBON RES	
	R446	QRD161J-103	10K 1/6W CARBON RES	
	R447	QRD161J-224	220K 1/6W CARBON RES	
	R448	QRD161J-224	220K 1/6W CARBON RES	
	R449	QRD161J-222	2.2K 1/6W CARBON RES	
	R450	QRD161J-105	1M 1/6W CARBON RES	
	R451	QRD161J-222	2.2K 1/6W CARBON RES	
	R452	QRD161J-301	300 1/6W CARBON RES	
⚠	R453	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	
	R454	QRD161J-102	1K 1/6W CARBON RES	
	R455	QRD161J-103	10K 1/6W CARBON RES	
	R456	QRD167J-151	150 1/6W CARBON RES	U
	R456	QRD167J-151	150 1/6W CARBON RES	US
	R456	QRD167J-151	150 1/6W CARBON RES	UT
	R456	QRD167J-152	1.5K 1/6W CARBON RES	A
	R456	QRD167J-152	1.5K 1/6W CARBON RES	BS
	R456	QRD167J-152	1.5K 1/6W CARBON RES	EF
	R456	QRD167J-152	1.5K 1/6W CARBON RES	EN
	R456	QRD167J-152	1.5K 1/6W CARBON RES	G
	R456	QRD167J-152	1.5K 1/6W CARBON RES	GI
	R456	QRD167J-152	1.5K 1/6W CARBON RES	VX
	R457	QRD161J-104	100K 1/6W CARBON RES	A
	R457	QRD161J-104	100K 1/6W CARBON RES	BS
	R457	QRD161J-104	100K 1/6W CARBON RES	EF
	R457	QRD161J-104	100K 1/6W CARBON RES	EN
	R457	QRD161J-104	100K 1/6W CARBON RES	G
	R457	QRD161J-104	100K 1/6W CARBON RES	GI
	R457	QRD161J-104	100K 1/6W CARBON RES	VX
	R457	QRD167J-152	1.5K 1/6W CARBON RES	U
	R457	QRD167J-152	1.5K 1/6W CARBON RES	US
	R457	QRD167J-152	1.5K 1/6W CARBON RES	UT
	R458	QRD161J-103	10K 1/6W CARBON RES	U
	R458	QRD161J-103	10K 1/6W CARBON RES	US
	R458	QRD161J-103	10K 1/6W CARBON RES	UT
	R458	QRD161J-104	100K 1/6W CARBON RES	A
	R458	QRD161J-104	100K 1/6W CARBON RES	BS
	R458	QRD161J-104	100K 1/6W CARBON RES	EF
	R458	QRD161J-104	100K 1/6W CARBON RES	EN
	R458	QRD161J-104	100K 1/6W CARBON RES	G
	R458	QRD161J-104	100K 1/6W CARBON RES	GI
	R458	QRD161J-104	100K 1/6W CARBON RES	VX
	R461	QRD161J-102	1K 1/6W CARBON RES	
	R462	QRD161J-102	1K 1/6W CARBON RES	
	R463	QRD161J-474	470K 1/6W CARBON RES	
	R464	QRD161J-474	470K 1/6W CARBON RES	
	R465	QRD161J-393	39K 1/6W CARBON RES	
	R466	QRD161J-393	39K 1/6W CARBON RES	
	R467	QRD161J-473	47K 1/6W CARBON RES	
	R468	QRD161J-473	47K 1/6W CARBON RES	
	R471	QRD161J-333	33K 1/6W CARBON RES	
	R472	QRD161J-333	33K 1/6W CARBON RES	
	R475	QRD167J-682	6.8K 1/6W CARBON RES	
	R476	QRD167J-682	6.8K 1/6W CARBON RES	
	R480	QRD161J-101	100 1/6W CARBON RES	
	R481	QRD161J-103	10K 1/6W CARBON RES	
	R482	QRD161J-103	10K 1/6W CARBON RES	
	R483	QRD161J-221	220 1/6W CARBON RES	A
	R483	QRD161J-221	220 1/6W CARBON RES	BS
	R483	QRD161J-221	220 1/6W CARBON RES	EF
	R483	QRD161J-221	220 1/6W CARBON RES	EN
	R483	QRD161J-221	220 1/6W CARBON RES	G
	R483	QRD161J-221	220 1/6W CARBON RES	GI
	R483	QRD161J-221	220 1/6W CARBON RES	VX
	R484	QRD161J-221	220 1/6W CARBON RES	A
	R484	QRD161J-221	220 1/6W CARBON RES	BS
	R484	QRD161J-221	220 1/6W CARBON RES	EF
	R484	QRD161J-221	220 1/6W CARBON RES	EN
	R484	QRD161J-221	220 1/6W CARBON RES	G
	R484	QRD161J-221	220 1/6W CARBON RES	GI
	R484	QRD161J-221	220 1/6W CARBON RES	VX
	R485	QRD161J-474	470K 1/6W CARBON RES	
	R490	QRD161J-102	1K 1/6W CARBON RES	
	R500	QVAA72B-E54B	50K VARIABLE R	
	R800	QRD161J-112	1.1K 1/6W CARBON RES	
	R801	QRD161J-681	680 1/6W CARBON RES	
	R802	QRD167J-431	430 1/6W CARBON RES	
	R803	QRD161J-112	1.1K 1/6W CARBON RES	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R804	QRD161J-681	680 1/6W CARBON RES	
	R805	QRD167J-431	430 1/6W CARBON RES	
	R806	QRD161J-181	180 1/6W CARBON RES	A
	R806	QRD161J-201	200 1/6W CARBON RES	EF
	R806	QRD161J-201	200 1/6W CARBON RES	EN
	R806	QRD161J-201	200 1/6W CARBON RES	G
	R806	QRD161J-201	200 1/6W CARBON RES	GI
	R806	QRD161J-201	200 1/6W CARBON RES	U
	R806	QRD161J-201	200 1/6W CARBON RES	US
	R806	QRD161J-201	200 1/6W CARBON RES	UT
	R806	QRD161J-201	200 1/6W CARBON RES	VX
	R806	QRD161J-221	220 1/6W CARBON RES	BS
	R808	QRD161J-103	10K 1/6W CARBON RES	
	R809	QRD161J-103	10K 1/6W CARBON RES	
	R812	QRD161J-103	10K 1/6W CARBON RES	
	R813	QRD161J-102	1K 1/6W CARBON RES	
	R814	QRD161J-105	1M 1/6W CARBON RES	
	R815	QRD161J-105	1M 1/6W CARBON RES	
	R816	QRD161J-222	2.2K 1/6W CARBON RES	
	R817	QRD167J-154	150K 1/6W CARBON RES	
	R818	QRD161J-222	2.2K 1/6W CARBON RES	
	R819	QRD161J-112	1.1K 1/6W CARBON RES	
	R820	QRD161J-681	680 1/6W CARBON RES	
	R821	QRD167J-431	430 1/6W CARBON RES	
	R822	QRD161J-112	1.1K 1/6W CARBON RES	
	R823	QRD161J-681	680 1/6W CARBON RES	
	R824	QRD167J-431	430 1/6W CARBON RES	
	R825	QRD161J-222	2.2K 1/6W CARBON RES	
	R826	QRD161J-112	1.1K 1/6W CARBON RES	
	R827	QRD161J-681	680 1/6W CARBON RES	
	R828	QRD167J-431	430 1/6W CARBON RES	
	R829	QRD167J-161	160 1/6W CARBON RES	
	R830	QRD161J-221	220 1/6W CARBON RES	
	R831	QRD161J-271	270 1/6W CARBON RES	
	R832	QRD161J-271	270 1/6W CARBON RES	
	R833	QRD161J-391	390 1/6W CARBON RES	
	R834	QRD167J-161	160 1/6W CARBON RES	
	R835	QRD161J-221	220 1/6W CARBON RES	
	R836	QRD167J-151	150 1/6W CARBON RES	
	R837	QRD167J-223	22K 1/6W CARBON RES	
	R838	QRD167J-223	22K 1/6W CARBON RES	
	R839	QRD161J-103	10K 1/6W CARBON RES	
	R841	QRD161J-104	100K 1/6W CARBON RES	
	R842	QRD161J-104	100K 1/6W CARBON RES	
	R851	QRD167J-223	22K 1/6W CARBON RES	
	R852	QRD167J-223	22K 1/6W CARBON RES	
	RA800	QRB049J-103	10K 1/10W RESISTOR	
	RA801	QRB139J-104	100K 1/10W RESISTOR	
	RA802	QRB099J-104	100K 1/10W RESISTOR	
	RA803	QRB089J-104	100K 1/10W NETWORK RE	
	RA804	QRB149J-104	100K 1/10W RESISTOR A	
	RA805	QRB109J-104	100K 1/10W NETWORK RE	
	RA806	QRB149J-104	100K 1/10W RESISTOR A	
	RA807	QRB049J-103	10K 1/10W RESISTOR	

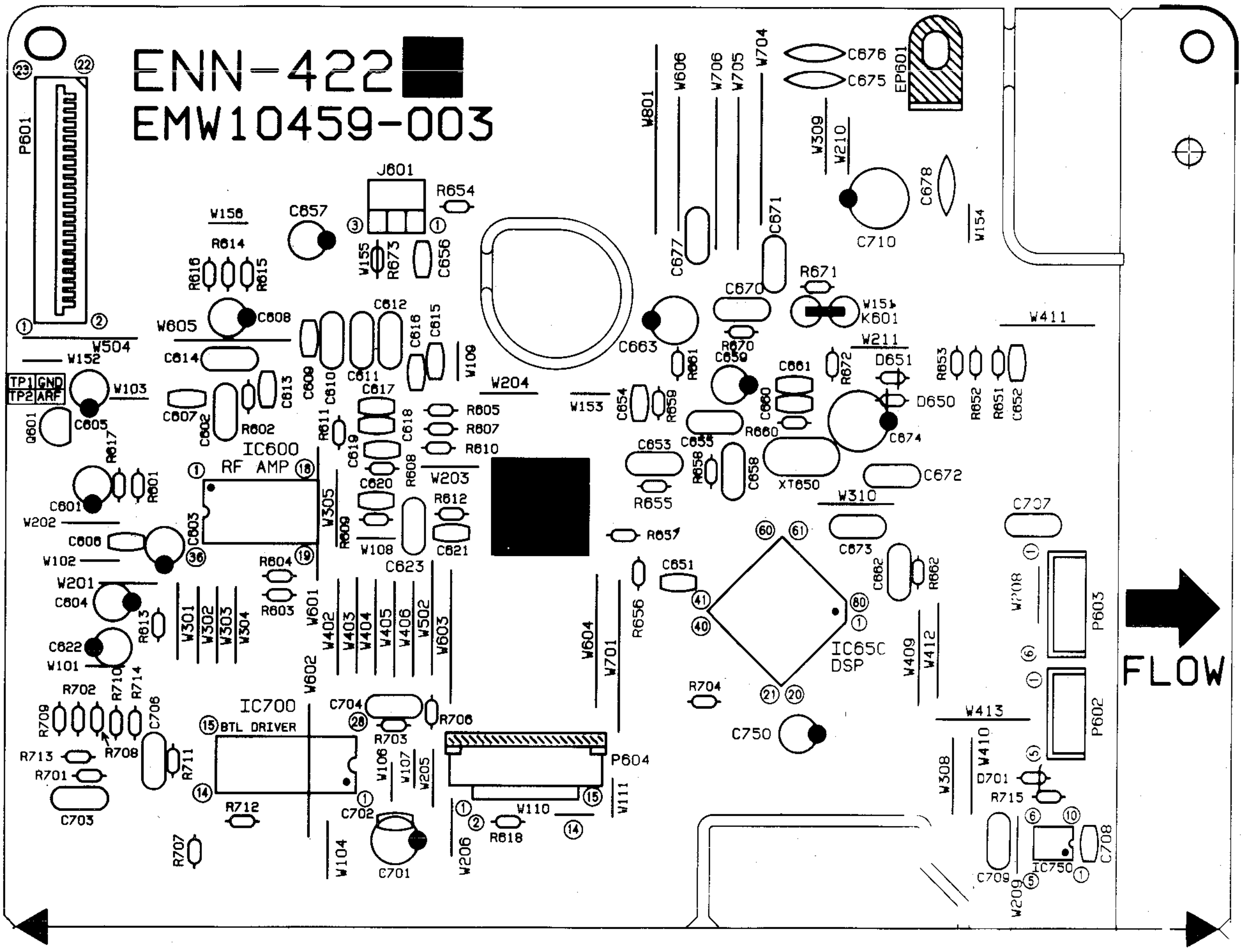
OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMW10455-103	CIR BOARD	A
		EMW10455-103	CIR BOARD	BS
		EMW10455-103	CIR BOARD	EF
		EMW10455-103	CIR BOARD	EN
		EMW10455-103	CIR BOARD	G
		EMW10455-103	CIR BOARD	GI
		EMW10455-103	CIR BOARD	VX
		EMW10455-203	CIR BOARD	U
		EMW10455-203	CIR BOARD	US
		EMW10455-203	CIR BOARD	UT
		EWT011-078	TERMINAL WI	A
		EWT011-078	TERMINAL WI	BS
		EWT011-078	TERMINAL WI	EF
		EWT011-078	TERMINAL WI	EN
		EWT011-078	TERMINAL WI	G
		EWT011-078	TERMINAL WI	GI
		EWT011-078	TERMINAL WI	VX
		E406779-001	SPACER	U
		E406779-001	SPACER	US
		E406779-001	SPACER	UT
		QWE350-144K4K	WIRE	A
		QWE350-144K4K	WIRE	BS
		QWE350-144K4K	WIRE	EF
		QWE350-144K4K	WIRE	EN
		QWE350-144K4K	WIRE	G
		QWE350-144K4K	WIRE	GI
		QWE350-144K4K	WIRE	VX
		QWE881-16RR	VINYL WIRE	U
		QWE881-16RR	VINYL WIRE	US
		QWE881-16RR	VINYL WIRE	UT
		QWE882-16RR	VINYL WIRE	U
		QWE882-16RR	VINYL WIRE	US
		QWE882-16RR	VINYL WIRE	UT
		QWE883-16RR	VINYL WIRE	U
		QWE883-16RR	VINYL WIRE	US

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		QWE883-16RR	VINYL WIRE	UT
		QWE884-19RR	VINYL WIRE	U
		QWE884-19RR	VINYL WIRE	US
		QWE884-19RR	VINYL WIRE	UT
		QWE886-18RR	VINYL WIRE	U
		QWE886-18RR	VINYL WIRE	US
		QWE886-18RR	VINYL WIRE	UT
		QWE888-17RR	VINYL WIRE	U
		QWE888-17RR	VINYL WIRE	US
		QWE888-17RR	VINYL WIRE	UT
		VYH7653-001	SPRING	
	J400	EMN00TV-405A	JACK BOARD	
	J412	QMS3R10-E40S	MICROPHONE	
	J413	QMS3R80-EE0S	HEADPHONE J	
	J501	VMC0107-R10	CONNECT TER	
	P401	EMV7163-012	CONNECT TER	
	P402	EMV7163-010	CONNECT TER	
	S800	QSQ1001-E01AJ4	PUSH SWITCH	
	S801	QSQ1001-E01AJ4	PUSH SWITCH	
	S802	QSQ1001-E01AJ4	PUSH SWITCH	
	S803	QSQ1001-E01AJ4	PUSH SWITCH	
	S804	QSQ1001-E01AJ4	PUSH SWITCH	
	S805	QSQ1001-E01AJ4	PUSH SWITCH	
	S806	QSQ1001-E01AJ4	PUSH SWITCH	
	S807	QSQ1001-E01AJ4	PUSH SWITCH	
	S808	QSQ1001-E01AJ4	PUSH SWITCH	
	S809	QSQ1001-E01AJ4	PUSH SWITCH	
	S810	QSQ1001-E01AJ4	PUSH SWITCH	
	S811	QSQ1001-E01AJ4	PUSH SWITCH	
	S812	QSQ1001-E01AJ4	PUSH SWITCH	
	S813	QSQ1001-E01AJ4	PUSH SWITCH	
	S814	QSQ1001-E01AJ4	PUSH SWITCH	
	S815	QSQ1001-E01AJ4	PUSH SWITCH	
	S816	QSQ1001-E01AJ4	PUSH SWITCH	
	S817	QSQ1001-E01AJ4	PUSH SWITCH	
	S818	QSQ1001-E01AJ4	PUSH SWITCH	
	S819	QSQ1001-E01AJ4	PUSH SWITCH	
	S820	QSQ1001-E01AJ4	PUSH SWITCH	
	S821	QSQ1001-E01AJ4	PUSH SWITCH	
	S822	QSQ1001-E01AJ4	PUSH SWITCH	
	S823	QSQ1001-E01AJ4	PUSH SWITCH	
	S824	QSQ1001-E01AJ4	PUSH SWITCH	
	S825	QSQ1001-E01AJ4	PUSH SWITCH	
	S826	QSQ1001-E01AJ4	PUSH SWITCH	
	S827	QSQ1001-E01AJ4	PUSH SWITCH	
	S828	QSQ1001-E01AJ4	PUSH SWITCH	
	S829	QSQ1001-E01AJ4	PUSH SWITCH	
	S830	QSQ1001-E01AJ4	PUSH SWITCH	
	S831	QSQ1001-E01AJ4	PUSH SWITCH	
	S832	QSQ1001-E01AJ4	PUSH SWITCH	
	S833	QSQ1001-E01AJ4	PUSH SWITCH	
	S834	QSQ1001-E01AJ4	PUSH SWITCH	
	S835	QSQ1001-E01AJ4	PUSH SWITCH	
	S836	QSQ1001-E01AJ4	PUSH SWITCH	
	S837	QSQ1001-E01AJ4	PUSH SWITCH	
	S838	QSQ1001-E01AJ4	PUSH SWITCH	
	S839	QSQ1001-E01AJ4	PUSH SWITCH	
	S840	QSQ1001-E01AJ4	PUSH SWITCH	
	S841	QSQ1001-E01AJ4	PUSH SWITCH	
	BC102	EWS267-F928	SOCKET WIRE	
	BC410	EWS293-0130	SOCKET WIRE	
	BC801	EWS32B-A930	SOCKET WIRE	
	FL800	ELU0001-189	FLUORESCENT	
	FS480	E3400-431	FELT SPACER	
	FT001	VMZ0087-001Z	FUSE HOLDER	
	FT002	VMZ0087-001Z	FUSE HOLDER	
	FT003	VMZ0087-001Z	FUSE HOLDER	
	FT004	VMZ0087-001Z	FUSE HOLDER	
	FT005	VMZ0087-001Z	FUSE HOLDER	
	FT006	VMZ0087-001Z	FUSE HOLDER	
	FT101	VMZ0087-001Z	FUSE HOLDER	U
	FT101	VMZ0087-001Z	FUSE HOLDER	US
	FT101	VMZ0087-001Z	FUSE HOLDER	UT
	FT102	VMZ0087-001Z	FUSE HOLDER	U
	FT102	VMZ0087-001Z	FUSE HOLDER	US
	FT102	VMZ0087-001Z	FUSE HOLDER	UT
	FW002	EWR36D-10LS	FLAT WIRE	
	JB101	EMV5140-010	VOLUME SOCK	
	JB801	VMC0161-025	CONNECT TER	
	JB852	VMC0161-R19	CONNECT TER	
	JS800	QSJ4002-E02	PUSH SWITCH	
	RS001	QSR8001-E01U	ROTARY SWIT	U
	RS001	QSR8001-E01U	ROTARY SWIT	US
	RS001	QSR8001-E01U	ROTARY SWIT	UT
	TB001	EMZ4001-001	TAB	
	TB002	EMZ4001-001	TAB	
	XT801	ECX0006-000KNJ	CRYSTAL	

■ ENN-422 Ⓐ CD Servo PC Board Ass'y



TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q601	2SA1015(Y,GR)	SI.TRANSIST トクラ	

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC600	AN8806SB	I.C(M) MATSUSHITA	
	IC650	MN66271RAM	I.C(M) MATSUSHITA	
	IC700	BA6398FP	I.C(MONO-AN ROHM	
	IC750	TA8409F	I.C(MONO-AN TOSHIBA	

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D650	1SS133	SI.DIODE ROHM	
	D651	1SS133	SI.DIODE ROHM	
	D701	MTZ6.2JB	ZENER DIODE ROHM	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C601	QER50JM-476	47MF 6.3V AL E.CAPAC	
	C602	QCZ0202-155	1.5MF 25V CER.RESIST	
	C604	QETB1AM-107	100MF 10V AL E.CAPAC	
	C605	QER51EM-106	10MF 25V E.CAPACITO	
	C606	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C607	QCSB1HJ-680	68PF 50V CER.CAPACI	
	C608	QETB1HM-105	1MF 50V AL E.CAPAC	
	C609	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C610	QFN81HJ-273	0.027MF 50V METAL.MYLA	
	C611	QFN81HJ-472	4700PF 50V MYLAR CAPA	
	C612	QFN31HJ-332Z	3300PF 50V MYLAR CAPA	
	C613	QCT30CH-3R3Y	3.3PF 50V CER.CAPACI	
	C614	QFV81HJ-104	0.1MF 50V THIN FILM	
	C615	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C616	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C617	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C618	QCXB1CM-222Y	2200PF 16V CER.CAPACI	
	C619	QCBB1HK-271Y	270PF 50V CER.CAPACI	
	C620	QCSB1HJ-470	47PF 50V CER.CAPACI	
	C621	QCGB1HK-821	820PF 50V CER.CAPACI	
	C622	QETB1AM-476	47MF 10V E.CAPACITO	
	C623	EFH001J-104	METAL.MYLA	
	C651	QCBB1HK-471Y	470PF 50V CER.CAPACI	
	C652	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C653	QFN81HJ-223	0.022MF 50V METAL.MYLA	
	C654	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C655	QFV81HJ-334	0.33MF 50V TF.CAPACIT	
	C658	QFV81HJ-104	0.1MF 50V THIN FILM	
	C660	QCT30CH-120Y	12PF 50V CER.CAPACI	
	C661	QCT30CH-120Y	12PF 50V CER.CAPACI	
	C662	QFV81HJ-104	0.1MF 50V THIN FILM	
	C663	QETB1AM-107	100MF 10V AL E.CAPAC	
	C670	QFN31HJ-332Z	3300PF 50V MYLAR CAPA	
	C671	QFN31HJ-332Z	3300PF 50V MYLAR CAPA	
	C673	QFV81HJ-104	0.1MF 50V THIN FILM	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C674	QETB0JM-477	470MF 6.3V AL E.CAPAC	
	C676	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C677	QCZ0202-155	1.5MF 25V CER.RESIST	
	C701	QETB1AM-107	100MF 10V AL E.CAPAC	
	C702	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C703	QFN81HJ-273	0.027MF 50V METAL.MYLA	
	C704	QFN81HJ-183	0.018MF 50V METAL.MYLA	
	C706	QFN81HJ-273	0.027MF 50V METAL.MYLA	
	C707	QFV81HJ-104	0.1MF 50V THIN FILM	
	C708	QCHB1EZ-223	0.022MF 25V CER.CAPACI	

RESISTORS

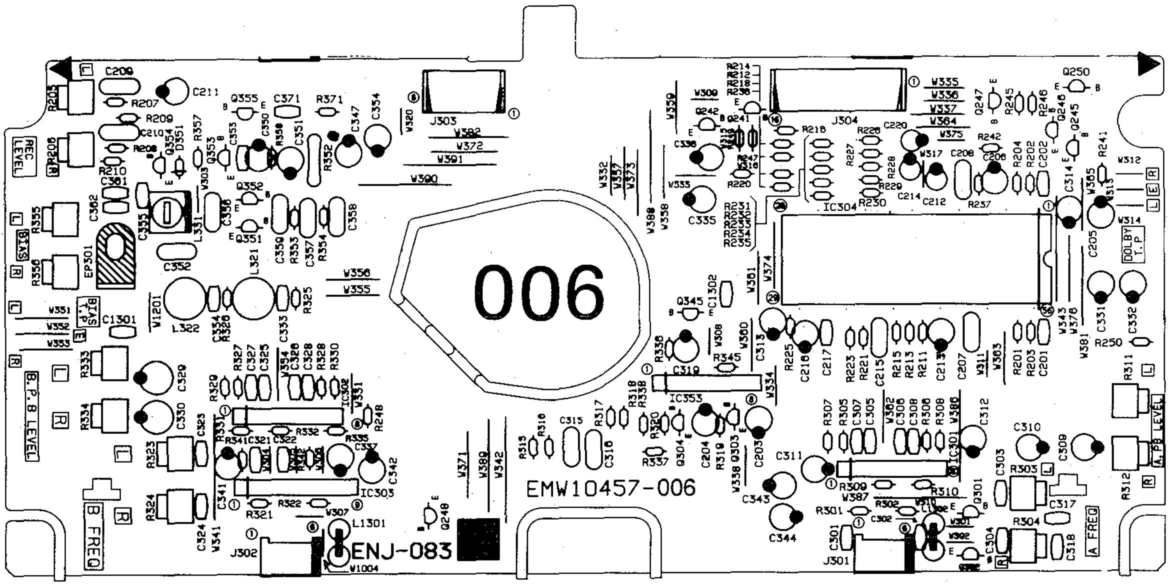
⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R602	QRD161J-123	12K 1/6W CARBON RES	
	R605	QRD167J-134	130K 1/6W CARBON RES	
	R607	QRD161J-913	91K 1/6W CARBON RES	
	R608	QRD161J-273	27K 1/6W CARBON RES	
	R609	QRD161J-114	110K 1/6W CARBON RES	
	R610	QRD167J-154	150K 1/6W CARBON RES	
	R611	QRD161J-394	390K 1/6W CARBON RES	
	R612	QRD161J-103	10K 1/6W CARBON RES	
	R613	QRD167J-121	120 1/6W CARBON RES	
	R614	QRD161J-470	47 1/6W CARBON RES	
	R615	QRD161J-470	47 1/6W CARBON RES	
	R616	QRD161J-470	47 1/6W CARBON RES	
	R617	QRD161J-2R2	2.2 1/6W CARBON RES	
	R618	QRD161J-910Y	91 1/6W CARBON RES	
	R651	QRD161J-102	1K 1/6W CARBON RES	
	R652	QRD161J-102	1K 1/6W CARBON RES	
	R653	QRD161J-102	1K 1/6W CARBON RES	
	R655	QRD167J-155	1.5M 1/6W CARBON RES	
	R656	QRD161J-104	100K 1/6W CARBON RES	
	R657	QRD161J-104	100K 1/6W CARBON RES	
	R658	QRD161J-681	680 1/6W CARBON RES	
	R659	QRD161J-124	120K 1/6W CARBON RES	
	R660	QRD167J-121	120 1/6W CARBON RES	
	R661	QRD161J-2R2	2.2 1/6W CARBON RES	
	R662	QRD161J-2R2	2.2 1/6W CARBON RES	
	R670	QRD161J-122	1.2K 1/6W CARBON RES	
	R671	QRD161J-122	1.2K 1/6W CARBON RES	
	R672	QRD161J-221	220 1/6W CARBON RES	
	R701	QRD161J-821	820 1/6W CARBON RES	
	R702	QRD167J-562	5.6K 1/6W CARBON RES	
	R703	QRD161J-112	1.1K 1/6W CARBON RES	
	R704	QRD167J-113	11K 1/6W CARBON RES	
	R706	QRD161J-124	120K 1/6W CARBON RES	
	R707	QRD167J-332	3.3K 1/6W CARBON RES	
	R708	QRD161J-752	7.5K 1/6W CARBON RES	
	R709	QRD167J-223	22K 1/6W CARBON RES	
	R710	QRD161J-103	10K 1/6W CARBON RES	
	R711	QRD167J-153	15K 1/6W CARBON RES	
	R712	QRD161J-752	7.5K 1/6W CARBON RES	
	R713	QRD167J-751	750 1/6W CARBON RES	
	R714	QRD167J-433	43K 1/6W CARBON RES	
	R715	QRD161J-471	470 1/6W CARBON RES	

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMW10459-003	PRINTED BOA	
	P601	VMC0161-023	CONNECT TER **23PIN**	
	P602	EMV5109-005A	MALE CONNEC **5PIN**	
	P603	EMV5109-006A	CONNECT TER **6PIN**	
	P604	EMV7144-015R	CONNECT TER **15PIN**	
	EP601	EMZ4002-001Z	EARTH PLATE	
	IH602	VYH7653-002	I.C.SOCKET	
	IH750	VYH7653-004	I.C.PROTECT	
	SP600	VYH7653-002	I.C.SOCKET	
	SP700	VYH7653-002	I.C.SOCKET	
	XT650	VCX5016-934V	CRYSTAL	

■ ENJ-083 ☐ Deck Control PC Board Ass'y

Note : ENJ-083 ☐ varies according to the areas employd. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Version	Dasignated Areas
ENJ-083 A	A U US UT	Australia Universal Type Singapore Taiwan
ENJ-083 B	BS EF EN G GI VX	the U.K. Continental Europe Scandinavia Germany Italy East Europe

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC301	NJM4580LD	I.C(MONO-AN DAINICHI	
	IC302	NJM4580LD	I.C(MONO-AN DAINICHI	
	IC303	UPC1330HA	I.C(MONO-AN NEC	
	IC304	HA12171NT	I.C(MONO-AN HITACHI	
	IC353	BA8221AN	I.C(MONO-AN ROHM	

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D351	1SS133	SI.DIODE ROHM	BS
	D351	1SS133	SI.DIODE ROHM	EF
	D351	1SS133	SI.DIODE ROHM	EN
	D351	1SS133	SI.DIODE ROHM	G
	D351	1SS133	SI.DIODE ROHM	GI
	D351	1SS133	SI.DIODE ROHM	VX

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q245	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q246	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q247	DTA144ES	DIGITAL TRA ROHM	
	Q248	DTC144ES	DIGITAL TRA ROHM	
	Q303	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q304	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q345	DTC144ES	DIGITAL TRA ROHM	
	Q351	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q352	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q353	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q354	2SC1740S(R,S)	SI.TRANSIST ROHM	BS
	Q354	2SC1740S(R,S)	SI.TRANSIST ROHM	EF
	Q354	2SC1740S(R,S)	SI.TRANSIST ROHM	EN
	Q354	2SC1740S(R,S)	SI.TRANSIST ROHM	G
	Q354	2SC1740S(R,S)	SI.TRANSIST ROHM	GI
	Q354	2SC1740S(R,S)	SI.TRANSIST ROHM	VX
	Q355	DTA144ES	DIGITAL TRA ROHM	BS
	Q355	DTA144ES	DIGITAL TRA ROHM	EF
	Q355	DTA144ES	DIGITAL TRA ROHM	EN
	Q355	DTA144ES	DIGITAL TRA ROHM	G
	Q355	DTA144ES	DIGITAL TRA ROHM	GI
	Q355	DTA144ES	DIGITAL TRA ROHM	VX

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C201	QCXB1CM-472Y	4700PF 16V CER.CAPACI	
	C202	QCXB1CM-472Y	4700PF 16V CER.CAPACI	
	C203	QETB1HM-105	1MF 50V AL E.CAPAC	
	C204	QETB1HM-105	1MF 50V AL E.CAPAC	
	C205	QETB1EM-106	10MF 25V AL E.CAPAC	
	C206	QETB1EM-106	10MF 25V AL E.CAPAC	
	C207	QFV81HJ-104	0.1MF 50V THIN FILM	
	C208	QFV81HJ-104	0.1MF 50V THIN FILM	
	C211	QETB1HM-105	1MF 50V AL E.CAPAC	
	C212	QEK51HM-105	1MF 50V AL E.CAPAC	
	C213	QEK51HM-334G	0.33MF 50V AL E.CAPAC	
	C214	QEK51HM-334G	0.33MF 50V AL E.CAPAC	
	C215	QFN81HJ-472	4700PF 50V MYLAR CAPA	
	C216	QETB1HM-474	0.47MF 50V ELECTRO	
	C217	QCXB1CM-222Y	2200PF 16V CER.CAPACI	
	C220	QEK51HM-225G	2.2MF 50V AL E.CAPAC	
	C301	QCBB1HK-821Y	820PF 50V CER.CAPACI	
	C302	QCBB1HK-821Y	820PF 50V CER.CAPACI	
	C303	QCBB1HK-331Y	330PF 50V CER.CAPACI	
	C304	QCBB1HK-331Y	330PF 50V CER.CAPACI	
	C305	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C306	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C307	QCVB1CM-822Y	8200PF 16V CER.CAPACI	
	C308	QCVB1CM-822Y	8200PF 16V CER.CAPACI	
	C309	QETB1AM-107	100MF 10V AL E.CAPAC	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C310	QETB1AM-107	100MF 10V AL E.CAPAC	
	C311	QETB1HM-105	1MF 50V AL E.CAPAC	
	C312	QETB1HM-105	1MF 50V AL E.CAPAC	
	C313	QETB1AM-107	100MF 10V AL E.CAPAC	
	C314	QETB1AM-107	100MF 10V AL E.CAPAC	
	C315	QFV81HJ-473	0.047MF 50V THIN FILM	
	C316	QFV81HJ-473	0.047MF 50V THIN FILM	
	C319	QETB1AM-476	47MF 10V E.CAPACITO	
	C321	QCXB1CM-122	1200PF 16V POLYPROPY.	
	C322	QCXB1CM-122	1200PF 16V POLYPROPY.	
	C323	QCBB1HK-331Y	330PF 50V CER.CAPACI	
	C324	QCBB1HK-331Y	330PF 50V CER.CAPACI	
	C325	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C326	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C327	QCVB1CM-822Y	8200PF 16V CER.CAPACI	
	C328	QCVB1CM-822Y	8200PF 16V CER.CAPACI	
	C329	QEK51CM-107	100MF 16V E.CAPACITO	
	C330	QEK51CM-107	100MF 16V E.CAPACITO	
	C331	QETB1HM-105	1MF 50V AL E.CAPAC	
	C332	QETB1HM-105	1MF 50V AL E.CAPAC	
	C333	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C334	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C335	QETB1HM-106	10MF 50V E.CAPACITO	
	C336	QETB1HM-106	10MF 50V E.CAPACITO	
	C337	QEK51CM-226	22MF 16V AL E.CAPAC	
	C341	QER61HM-105Z	1MF 50V AL E.CAPAC	
	C342	QER61HM-105Z	1MF 50V AL E.CAPAC	
	C343	QETB1AM-107	100MF 10V AL E.CAPAC	
	C344	QETB1AM-107	100MF 10V AL E.CAPAC	
	C347	QETB1AM-107	100MF 10V AL E.CAPAC	
	C350	QETB1HM-105	1MF 50V AL E.CAPAC	
	C351	QETB1AM-107	100MF 10V AL E.CAPAC	
	C352	QFP81HJ-562	5600PF 50V POLYPROPY.	
	C353	QCVB1CM-103Y	0.01MF 16V CER.CAPACI	
	C354	QETB1AM-107	100MF 10V AL E.CAPAC	
	C355	QCBB1HK-471Y	470PF 50V CER.CAPACI	BS
	C355	QCBB1HK-471Y	470PF 50V CER.CAPACI	EF
	C355	QCBB1HK-471Y	470PF 50V CER.CAPACI	EN
	C355	QCBB1HK-471Y	470PF 50V CER.CAPACI	G
	C355	QCBB1HK-471Y	470PF 50V CER.CAPACI	GI
	C355	QCBB1HK-471Y	470PF 50V CER.CAPACI	VX
	C356	QFN81HJ-153	0.015MF 50V MYLAR CAPA	
	C357	QFN31HJ-332Z	3300PF 50V MYLAR CAPA	
	C358	QFN31HJ-332Z	3300PF 50V MYLAR CAPA	
	C359	QFN81HJ-682	6800PF 50V METAL.MYLA	
	C361	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C362	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C371	QCHB1EZ-223	0.022MF 25V CER.CAPACI	BS
	C371	QCHB1EZ-223	0.022MF 25V CER.CAPACI	EF
	C371	QCHB1EZ-223	0.022MF 25V CER.CAPACI	EN
	C371	QCHB1EZ-223	0.022MF 25V CER.CAPACI	G
	C371	QCHB1EZ-223	0.022MF 25V CER.CAPACI	GI
	C371	QCHB1EZ-223	0.022MF 25V CER.CAPACI	VX
	C1301	QCBB1HK-102Y	1000PF 50V CER.CAPACI	A
	C1301	QCBB1HK-102Y	1000PF 50V CER.CAPACI	BS
	C1301	QCBB1HK-102Y	1000PF 50V CER.CAPACI	EF
	C1301	QCBB1HK-102Y	1000PF 50V CER.CAPACI	EN
	C1301	QCBB1HK-102Y	1000PF 50V CER.CAPACI	G
	C1301	QCBB1HK-102Y	1000PF 50V CER.CAPACI	GI
	C1301	QCBB1HK-102Y	1000PF 50V CER.CAPACI	VX
	C1302	QCBB1HK-102Y	1000PF 50V CER.CAPACI	A
	C1302	QCBB1HK-102Y	1000PF 50V CER.CAPACI	BS
	C1302	QCBB1HK-102Y	1000PF 50V CER.CAPACI	EF
	C1302	QCBB1HK-102Y	1000PF 50V CER.CAPACI	EN
	C1302	QCBB1HK-102Y	1000PF 50V CER.CAPACI	G
	C1302	QCBB1HK-102Y	1000PF 50V CER.CAPACI	GI
	C1302	QCBB1HK-102Y	1000PF 50V CER.CAPACI	VX

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R201	QRD167J-153	15K 1/6W CARBON RES	
	R202	QRD167J-153	15K 1/6W CARBON RES	
	R203	QRD161J-123	12K 1/6W CARBON RES	
	R204	QRD161J-123	12K 1/6W CARBON RES	
	R205	QVPA603-503A	50K VARIABLE R	
	R206	QVPA603-503A	50K VARIABLE R	
	R209	QRD167J-153	15K 1/6W CARBON RES	
	R210	QRD167J-153	15K 1/6W CARBON RES	
	R211	QRD161J-823	82K 1/6W CARBON RES	
	R212	QRD167J-562	5.6K 1/6W CARBON RES	
	R213	QRD161J-203	20K 1/6W CARBON RES	
	R214	QRD167J-682	6.8K 1/6W CARBON RES	
	R215	QRD167J-153	15K 1/6W CARBON RES	
	R216	QRD167J-332	3.3K 1/6W CARBON RES	
	R218	QRD161J-472	4.7K 1/6W CARBON RES	
	R220	QRD161J-243	24K 1/6W CARBON RES	
	R221	QRD161J-103	10K 1/6W CARBON RES	
	R223	QRD161J-183	18K 1/6W CARBON RES	
	R225	QRD161J-184	180K 1/6W CARBON RES	
	R226	QRD167J-223	22K 1/6W CARBON RES	

RESISTORS

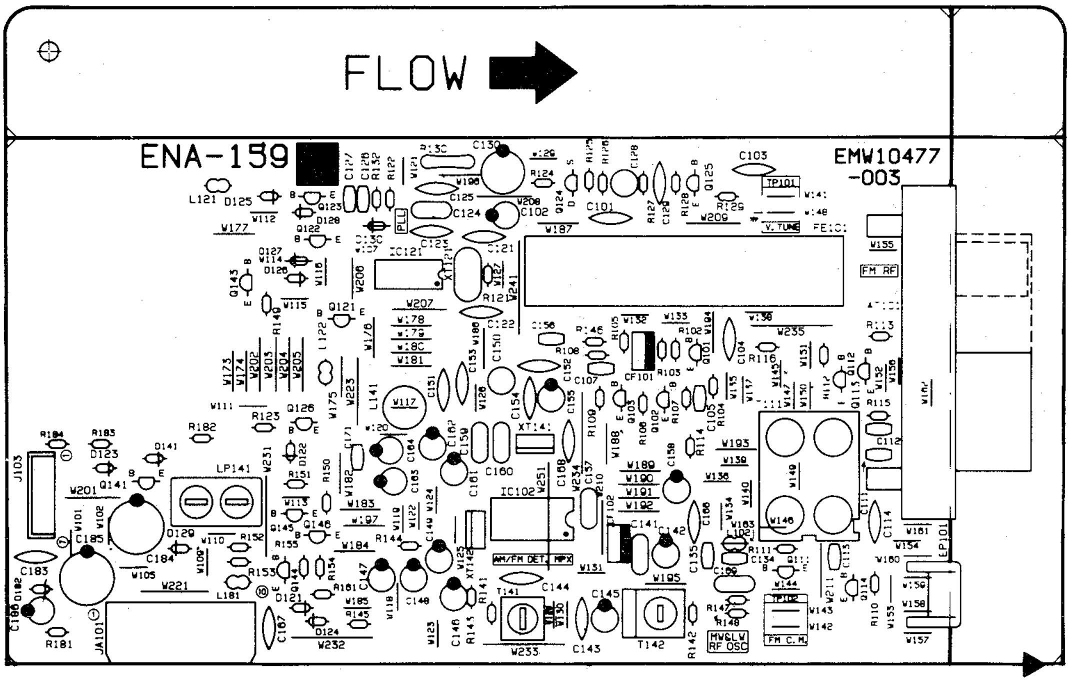
⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R227	QRD167J-223	22K 1/6W CARBON RES	
	R228	QRD167J-223	22K 1/6W CARBON RES	
	R229	QRD167J-223	22K 1/6W CARBON RES	
	R230	QRD167J-223	22K 1/6W CARBON RES	
	R231	QRD167J-223	22K 1/6W CARBON RES	
	R232	QRD167J-223	22K 1/6W CARBON RES	
	R233	QRD167J-223	22K 1/6W CARBON RES	
	R234	QRD167J-223	22K 1/6W CARBON RES	
	R235	QRD167J-223	22K 1/6W CARBON RES	
	R237	QRD161J-183	18K 1/6W CARBON RES	
	R241	QRD161J-392	3.9K 1/6W CARBON RES	
	R242	QRD161J-392	3.9K 1/6W CARBON RES	
	R245	QRD161J-472	4.7K 1/6W CARBON RES	
	R246	QRD161J-472	4.7K 1/6W CARBON RES	
	R248	QRD161J-103	10K 1/6W CARBON RES	
	R301	QRD167J-334	330K 1/6W CARBON RES	
	R302	QRD167J-334	330K 1/6W CARBON RES	
	R303	QVPA603-104A	100K TRIMMER RE	
	R304	QVPA603-104A	100K TRIMMER RE	
	R305	QRD167J-334	330K 1/6W CARBON RES	
	R306	QRD167J-334	330K 1/6W CARBON RES	
	R307	QRD161J-203	20K 1/6W CARBON RES	
	R308	QRD161J-203	20K 1/6W CARBON RES	
	R309	QRD161J-391	390 1/6W CARBON RES	
	R310	QRD161J-391	390 1/6W CARBON RES	
	R311	QVPA603-501A	500 TRIMMER RE	
	R312	QVPA603-501A	500 TRIMMER RE	
	R315	QRD161J-564	560K 1/6W CARBON RES	
	R316	QRD161J-564	560K 1/6W CARBON RES	
	R317	QRD161J-103	10K 1/6W CARBON RES	
	R318	QRD161J-103	10K 1/6W CARBON RES	
	R319	QRD167J-332	3.3K 1/6W CARBON RES	
	R320	QRD167J-332	3.3K 1/6W CARBON RES	
	R321	QRD161J-100	10 1/6W CARBON RES	
	R322	QRD161J-100	10 1/6W CARBON RES	
	R323	QVPA603-104A	100K TRIMMER RE	
	R324	QVPA603-104A	100K TRIMMER RE	
	R325	QRD167J-153	15K 1/6W CARBON RES	
	R326	QRD167J-153	15K 1/6W CARBON RES	
	R327	QRD167J-334	330K 1/6W CARBON RES	
	R328	QRD167J-334	330K 1/6W CARBON RES	
	R329	QRD161J-203	20K 1/6W CARBON RES	
	R330	QRD161J-203	20K 1/6W CARBON RES	
	R331	QRD167J-151	150 1/6W CARBON RES	
	R332	QRD167J-151	150 1/6W CARBON RES	
	R333	QVPA603-501A	500 TRIMMER RE	
	R334	QVPA603-501A	500 TRIMMER RE	
	R335	QRD161J-101	100 1/6W CARBON RES	
	R336	QRD161J-105	1M 1/6W CARBON RES	
	R337	QRD161J-133Y	13K 1/6W CARBON RES	
	R338	QRD161J-133Y	13K 1/6W CARBON RES	
	R341	QRD167J-334	330K 1/6W CARBON RES	
	R342	QRD167J-334	330K 1/6W CARBON RES	
	R345	QRD161J-103	10K 1/6W CARBON RES	
	R352	QRD14CJ-6R8SX	6.8 1/4W UNF.CARBON	
	R353	QRD161J-393	39K 1/6W CARBON RES	
	R354	QRD161J-393	39K 1/6W CARBON RES	
	R355	QVPA603-104A	100K TRIMMER RE	
	R356	QVPA603-104A	100K TRIMMER RE	
	R357	QRD161J-561	560 1/6W CARBON RES	BS
	R357	QRD161J-561	560 1/6W CARBON RES	EF
	R357	QRD161J-561	560 1/6W CARBON RES	EN
	R357	QRD161J-561	560 1/6W CARBON RES	G
	R357	QRD161J-561	560 1/6W CARBON RES	GI
	R357	QRD161J-561	560 1/6W CARBON RES	VX
	R358	QRD161J-103	10K 1/6W CARBON RES	
	R371	QRD161J-102	1K 1/6W CARBON RES	BS
	R371	QRD161J-102	1K 1/6W CARBON RES	EF
	R371	QRD161J-102	1K 1/6W CARBON RES	EN
	R371	QRD161J-102	1K 1/6W CARBON RES	G
	R371	QRD161J-102	1K 1/6W CARBON RES	GI
	R371	QRD161J-102	1K 1/6W CARBON RES	VX

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMW10457-006		
	J301	EMV7155-106R	CONNECT TER 6PIN	
	J302	EMV7155-106R	CONNECT TER 6PIN	
	J303	EMV5132-008R	CONNECT TER 8PIN	
	J304	EMV5132-016R	CONNECT TER 16PIN	
	L321	EQL2106-223	INDUCTOR	
	L322	EQL2106-223	INDUCTOR	
	L331	ENZ6002-012	OSCILLATOR	
	EP301	EMZ4002-001Z	EARTH PLATE	A
	EP301	EMZ4002-001Z	EARTH PLATE	BS
	EP301	EMZ4002-001Z	EARTH PLATE	EF
	EP301	EMZ4002-001Z	EARTH PLATE	EN
	EP301	EMZ4002-001Z	EARTH PLATE	G
	EP301	EMZ4002-001Z	EARTH PLATE	GI
	EP301	EMZ4002-001Z	EARTH PLATE	VX
	L1301	ENZ8101-007	INDUCTOR	A
	L1301	ENZ8101-007	INDUCTOR	BS
	L1301	ENZ8101-007	INDUCTOR	EF
	L1301	ENZ8101-007	INDUCTOR	EN
	L1301	ENZ8101-007	INDUCTOR	G
	L1301	ENZ8101-007	INDUCTOR	GI
	L1301	ENZ8101-007	INDUCTOR	VX
	L1302	ENZ8101-007	INDUCTOR	A
	L1302	ENZ8101-007	INDUCTOR	BS
	L1302	ENZ8101-007	INDUCTOR	EF
	L1302	ENZ8101-007	INDUCTOR	EN
	L1302	ENZ8101-007	INDUCTOR	G
	L1302	ENZ8101-007	INDUCTOR	GI
	L1302	ENZ8101-007	INDUCTOR	VX

■ ENA-159 ☐ Tuner PC Board Ass'y

Note : ENA-159 ☐ varies according to the areas employd. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Version	Dasignated Areas
ENA-159 C	BS	the U.K.
ENA-159 D	A	Australia
ENA-159 E	EN EF	Scandinavia Continental Europe
ENA-159 F	U UT US	Universal Type Taiwan Singapore
ENA-159 G	G GI	Germany Italy
ENA-159 H	VX	East Europe

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q101	2SC461	SI.TRANSIST トクラ	
	Q102	2SC535	SI.TRANSIST HITACHI	
	Q103	2SC461	SI.TRANSIST トクラ	
	Q111	2SD2144S(VW)	SI.TRANSIST ROHM	BS
	Q111	2SD2144S(VW)	SI.TRANSIST ROHM	EF
	Q111	2SD2144S(VW)	SI.TRANSIST ROHM	EN
	Q111	2SD2144S(VW)	SI.TRANSIST ROHM	G
	Q111	2SD2144S(VW)	SI.TRANSIST ROHM	GI
	Q111	2SD2144S(VW)	SI.TRANSIST ROHM	VX
	Q112	2SD2144S(VW)	SI.TRANSIST ROHM	BS
	Q112	2SD2144S(VW)	SI.TRANSIST ROHM	EF
	Q112	2SD2144S(VW)	SI.TRANSIST ROHM	EN
	Q112	2SD2144S(VW)	SI.TRANSIST ROHM	G
	Q112	2SD2144S(VW)	SI.TRANSIST ROHM	GI
	Q112	2SD2144S(VW)	SI.TRANSIST ROHM	VX
	Q113	2SC1740S(R,S)	SI.TRANSIST ROHM	BS
	Q113	2SC1740S(R,S)	SI.TRANSIST ROHM	EF
	Q113	2SC1740S(R,S)	SI.TRANSIST ROHM	EN
	Q113	2SC1740S(R,S)	SI.TRANSIST ROHM	G
	Q113	2SC1740S(R,S)	SI.TRANSIST ROHM	GI
	Q113	2SC1740S(R,S)	SI.TRANSIST ROHM	VX
	Q114	2SD2144S(VW)	SI.TRANSIST ROHM	BS
	Q114	2SD2144S(VW)	SI.TRANSIST ROHM	EF
	Q114	2SD2144S(VW)	SI.TRANSIST ROHM	EN
	Q114	2SD2144S(VW)	SI.TRANSIST ROHM	G
	Q114	2SD2144S(VW)	SI.TRANSIST ROHM	GI
	Q114	2SD2144S(VW)	SI.TRANSIST ROHM	VX
	Q121	DTA144ES	DIGITAL TRA ROHM	
	Q122	DTA144ES	DIGITAL TRA ROHM	
	Q123	DTA144ES	DIGITAL TRA ROHM	BS
	Q123	DTA144ES	DIGITAL TRA ROHM	EF
	Q123	DTA144ES	DIGITAL TRA ROHM	EN
	Q123	DTA144ES	DIGITAL TRA ROHM	G
	Q123	DTA144ES	DIGITAL TRA ROHM	GI
	Q123	DTA144ES	DIGITAL TRA ROHM	VX
	Q124	2SK301(P,Q)	F.E.T. MATSUSHITA	
	Q125	2SC458(C,D)	SI.TRANSIST HITACHI	
	Q126	DTC114ES	DIGITAL TRA ROHM	
	Q141	DTC114ES	DIGITAL TRA ROHM	
	Q143	DTC114ES	DIGITAL TRA ROHM	

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC102	LA1836M	I.C(MONO-AN SANYO	
	IC121	LC7218JMX	I.C(DIGI-MO SANYO	

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D121	1SS133	SI.DIODE ROHM	
	D122	1SS133	SI.DIODE ROHM	
	D123	1SS133	SI.DIODE ROHM	
	D124	1SS133	SI.DIODE ROHM	
	D125	1SS133	SI.DIODE ROHM	BS
	D125	1SS133	SI.DIODE ROHM	EF
	D125	1SS133	SI.DIODE ROHM	EN
	D125	1SS133	SI.DIODE ROHM	G
	D125	1SS133	SI.DIODE ROHM	GI
	D125	1SS133	SI.DIODE ROHM	VX
	D126	1SS133	SI.DIODE ROHM	
	D127	1SS133	SI.DIODE ROHM	BS
	D127	1SS133	SI.DIODE ROHM	EF
	D127	1SS133	SI.DIODE ROHM	EN
	D127	1SS133	SI.DIODE ROHM	G
	D127	1SS133	SI.DIODE ROHM	GI
	D127	1SS133	SI.DIODE ROHM	VX
	D128	1SS133	SI.DIODE ROHM	BS
	D128	1SS133	SI.DIODE ROHM	EF
	D128	1SS133	SI.DIODE ROHM	EN
	D128	1SS133	SI.DIODE ROHM	G
	D128	1SS133	SI.DIODE ROHM	GI
	D128	1SS133	SI.DIODE ROHM	VX
	D129	1SS133	SI.DIODE ROHM	
	D130	1SS133	SI.DIODE ROHM	
	D141	1SS133	SI.DIODE ROHM	
	D182	MTZ5.1JC	ZENER DIODE ROHM	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C101	QCF21HP-103A	0.01MF 50V CER.CAPACI	
	C102	QETB1HM-476	47MF 50V E.CAPACITO	
	C103	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C104	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C105	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C107	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C111	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C112	QCT30CH-120Y	12PF 50V CER.CAPACI	
	C113	QCHB1EZ-223	0.022MF 25V CER.CAPACI	BS
	C113	QCHB1EZ-223	0.022MF 25V CER.CAPACI	EF
	C113	QCHB1EZ-223	0.022MF 25V CER.CAPACI	EN
	C113	QCHB1EZ-223	0.022MF 25V CER.CAPACI	G
	C113	QCHB1EZ-223	0.022MF 25V CER.CAPACI	GI
	C113	QCHB1EZ-223	0.022MF 25V CER.CAPACI	VX
	C114	QCC21EM-473	0.047MF 25V CER.CAPACI	
	C121	QCS21HJ-180A	18PF 50V CER.CAPACI	
	C122	QCS21HJ-180A	18PF 50V CER.CAPACI	
	C123	QCC21EM-473	0.047MF 25V CER.CAPACI	
	C124	QCZ0202-155	1.5MF 25V CER.RESIST	
	C125	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C126	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C127	QCBB1HK-101Y	100PF 50V CER.CAPACI	
	C128	QENB1HM-474	0.47MF 50V NP E.CAPAC	
	C129	QCY31HK-102Z	1000PF 50V CER.CAPACI	
	C130	QETB1CM-227	220MF 16V AL E.CAPAC	
	C134	QCSB1HK-5R6Y	5.6PF 50V CER.CAPACI	BS
	C134	QCSB1HK-5R6Y	5.6PF 50V CER.CAPACI	EF
	C134	QCSB1HK-5R6Y	5.6PF 50V CER.CAPACI	EN
	C134	QCSB1HK-5R6Y	5.6PF 50V CER.CAPACI	G
	C134	QCSB1HK-5R6Y	5.6PF 50V CER.CAPACI	GI
	C134	QCSB1HK-5R6Y	5.6PF 50V CER.CAPACI	VX
	C135	QCSB1HJ-150Y	15PF 50V CER.CAPACI	BS
	C135	QCSB1HJ-150Y	15PF 50V CER.CAPACI	EF
	C135	QCSB1HJ-150Y	15PF 50V CER.CAPACI	EN
	C135	QCSB1HJ-150Y	15PF 50V CER.CAPACI	G
	C135	QCSB1HJ-150Y	15PF 50V CER.CAPACI	GI
	C135	QCSB1HJ-150Y	15PF 50V CER.CAPACI	VX
	C141	QFN81HJ-473	0.047MF 50V METAL.MYLA	
	C142	QETB1HM-106	10MF 50V E.CAPACITO	
	C143	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C144	QCC21EM-223	0.022MF 25V CER.CAPACI	
	C145	QETB1HM-475E	4.7MF 50V E.CAPACITO	
	C146	QETB1HM-106	10MF 50V E.CAPACITO	
	C147	QETB1HM-105	1MF 50V AL E.CAPAC	
	C148	QETB1HM-474	0.47MF 50V ELECTRO	
	C149	QETB1HM-105	1MF 50V AL E.CAPAC	
	C150	QETC1HM-225ZN	2.2MF 50V AL E.CAPAC	
	C151	QCS21HJ-181A	180PF 50V CER.CAPACI	BS
	C151	QCS21HJ-181A	180PF 50V CER.CAPACI	EF
	C151	QCS21HJ-181A	180PF 50V CER.CAPACI	EN
	C151	QCS21HJ-181A	180PF 50V CER.CAPACI	G
	C151	QCS21HJ-181A	180PF 50V CER.CAPACI	GI
	C151	QCS21HJ-181A	180PF 50V CER.CAPACI	VX
	C152	QCS21HJ-181A	180PF 50V CER.CAPACI	BS
	C152	QCS21HJ-181A	180PF 50V CER.CAPACI	EF
	C152	QCS21HJ-181A	180PF 50V CER.CAPACI	EN
	C152	QCS21HJ-181A	180PF 50V CER.CAPACI	G
	C152	QCS21HJ-181A	180PF 50V CER.CAPACI	GI
	C152	QCS21HJ-181A	180PF 50V CER.CAPACI	VX
	C153	QCY31HK-102Z	1000PF 50V CER.CAPACI	A

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C153	QCY31HK-821Z	820PF 50V CER.CAPACI	BS
	C153	QCY31HK-821Z	820PF 50V CER.CAPACI	EF
	C153	QCY31HK-821Z	820PF 50V CER.CAPACI	EN
	C153	QCY31HK-821Z	820PF 50V CER.CAPACI	G
	C153	QCY31HK-821Z	820PF 50V CER.CAPACI	GI
	C153	QCY31HK-102Z	1000PF 50V CER.CAPACI	U
	C153	QCY31HK-102Z	1000PF 50V CER.CAPACI	US
	C153	QCY31HK-102Z	1000PF 50V CER.CAPACI	UT
	C153	QCY31HK-821Z	820PF 50V CER.CAPACI	VX
	C154	QCY31HK-472Z	4700PF 50V CER.CAPACI	
	C155	QETB1EM-476	47MF 25V AL E.CAPAC	
	C156	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C157	QCZ0202-155	1.5MF 25V CER.RESIST	
	C158	QETB1HM-106	10MF 50V E.CAPACITO	
	C159	QFN81HJ-223	0.022MF 50V METAL.MYLA	A
	C159	QFN81HJ-223	0.022MF 50V METAL.MYLA	BS
	C159	QFN81HJ-223	0.022MF 50V METAL.MYLA	EF
	C159	QFN81HJ-223	0.022MF 50V METAL.MYLA	EN
	C159	QFN81HJ-223	0.022MF 50V METAL.MYLA	G
	C159	QFN81HJ-223	0.022MF 50V METAL.MYLA	GI
	C159	QFN81HJ-333	0.033MF 50V MYLAR CAPA	U
	C159	QFN81HJ-333	0.033MF 50V MYLAR CAPA	US
	C159	QFN81HJ-333	0.033MF 50V MYLAR CAPA	UT
	C159	QFN81HJ-223	0.022MF 50V METAL.MYLA	VX
	C160	QFN81HJ-223	0.022MF 50V METAL.MYLA	A
	C160	QFN81HJ-223	0.022MF 50V METAL.MYLA	BS
	C160	QFN81HJ-223	0.022MF 50V METAL.MYLA	EF
	C160	QFN81HJ-223	0.022MF 50V METAL.MYLA	EN
	C160	QFN81HJ-223	0.022MF 50V METAL.MYLA	G
	C160	QFN81HJ-223	0.022MF 50V METAL.MYLA	GI
	C160	QFN81HJ-333	0.033MF 50V MYLAR CAPA	U
	C160	QFN81HJ-333	0.033MF 50V MYLAR CAPA	US
	C160	QFN81HJ-333	0.033MF 50V MYLAR CAPA	UT
	C160	QFN81HJ-223	0.022MF 50V METAL.MYLA	VX
	C161	QETB1HM-225	2.2MF 50V AL E.CAPAC	
	C162	QETB1HM-225	2.2MF 50V AL E.CAPAC	
	C163	QETB1HM-225	2.2MF 50V AL E.CAPAC	
	C164	QETB1HM-225	2.2MF 50V AL E.CAPAC	
	C166	QCC21EM-473	0.047MF 25V CER.CAPACI	
	C167	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C168	QCC21EM-473	0.047MF 25V CER.CAPACI	
	C169	QFV41HJ-274ZM	0.27MF 50V THIN FILM	
	C171	QCY31HK-102Z	1000PF 50V CER.CAPACI	
	C183	QCF21HP-223A	0.022MF 50V CER.CAPACI	
	C184	QETB1CM-227	220MF 16V AL E.CAPAC	
	C185	QETB1CM-477M	470MF 16V E.CAPACITO	
	C186	QETB1HM-475E	4.7MF 50V E.CAPACITO	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R102	QRD167J-332	3.3K 1/6W CARBON RES	
	R103	QRD161J-221	220 1/6W CARBON RES	
	R104	QRD167J-272	2.7K 1/6W CARBON RES	
	R105	QRD161J-391	390 1/6W CARBON RES	
	R106	QRD161J-102	1K 1/6W CARBON RES	
	R107	QRD161J-681	680 1/6W CARBON RES	
	R108	QRD167J-332	3.3K 1/6W CARBON RES	
	R109	QRD161J-221	220 1/6W CARBON RES	
	R110	QRD161J-472	4.7K 1/6W CARBON RES	BS
	R110	QRD161J-472	4.7K 1/6W CARBON RES	EF
	R110	QRD161J-472	4.7K 1/6W CARBON RES	EN
	R110	QRD161J-472	4.7K 1/6W CARBON RES	G
	R110	QRD161J-472	4.7K 1/6W CARBON RES	GI
	R110	QRD161J-472	4.7K 1/6W CARBON RES	VX
	R111	QRD161J-472	4.7K 1/6W CARBON RES	BS
	R111	QRD161J-472	4.7K 1/6W CARBON RES	EF
	R111	QRD161J-472	4.7K 1/6W CARBON RES	EN
	R111	QRD161J-472	4.7K 1/6W CARBON RES	G
	R111	QRD161J-472	4.7K 1/6W CARBON RES	GI
	R111	QRD161J-472	4.7K 1/6W CARBON RES	VX
	R112	QRD161J-472	4.7K 1/6W CARBON RES	BS
	R112	QRD161J-472	4.7K 1/6W CARBON RES	EF
	R112	QRD161J-472	4.7K 1/6W CARBON RES	EN
	R112	QRD161J-472	4.7K 1/6W CARBON RES	G
	R112	QRD161J-472	4.7K 1/6W CARBON RES	GI
	R112	QRD161J-472	4.7K 1/6W CARBON RES	VX
	R113	QRD161J-103	10K 1/6W CARBON RES	BS
	R113	QRD161J-103	10K 1/6W CARBON RES	EF
	R113	QRD161J-103	10K 1/6W CARBON RES	EN
	R113	QRD161J-103	10K 1/6W CARBON RES	G
	R113	QRD161J-103	10K 1/6W CARBON RES	GI
	R113	QRD161J-103	10K 1/6W CARBON RES	VX
	R114	QRD161J-103	10K 1/6W CARBON RES	BS
	R114	QRD161J-103	10K 1/6W CARBON RES	EF
	R114	QRD161J-103	10K 1/6W CARBON RES	EN
	R114	QRD161J-103	10K 1/6W CARBON RES	G
	R114	QRD161J-103	10K 1/6W CARBON RES	GI
	R114	QRD161J-103	10K 1/6W CARBON RES	VX
	R115	QRD161J-104	100K 1/6W CARBON RES	
	R116	QRD161J-222	2.2K 1/6W CARBON RES	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R121	QRD161J-473	47K 1/6W CARBON RES	
	R122	QRD161J-472	4.7K 1/6W CARBON RES	
	R123	QRD167J-562	5.6K 1/6W CARBON RES	
	R124	QRD161J-222	2.2K 1/6W CARBON RES	
	R125	QRD161J-222	2.2K 1/6W CARBON RES	
	R126	QRD161J-181	180 1/6W CARBON RES	
	R127	QRD167J-822	8.2K 1/6W CARBON RES	
	R128	QRD161J-472	4.7K 1/6W CARBON RES	
	R129	QRD161J-222	2.2K 1/6W CARBON RES	
⚠	R130	QRZ0077-680	68 1/4W FUSIBLE RE	
	R132	QRD161J-102	1K 1/6W CARBON RES	
	R141	QRD161J-392	3.9K 1/6W CARBON RES	
	R142	QRD161J-103	10K 1/6W CARBON RES	
	R143	QRD161J-103	10K 1/6W CARBON RES	
	R144	QRD167J-332	3.3K 1/6W CARBON RES	
	R145	QRD161J-103	10K 1/6W CARBON RES	
	R146	QRD161J-222	2.2K 1/6W CARBON RES	
	R147	QRD161J-473	47K 1/6W CARBON RES	
	R148	QRD161J-561	560 1/6W CARBON RES	
	R149	QRD161J-103	10K 1/6W CARBON RES	A
	R149	QRD167J-223	22K 1/6W CARBON RES	BS
	R149	QRD161J-103	10K 1/6W CARBON RES	EF
	R149	QRD161J-103	10K 1/6W CARBON RES	EN
	R149	QRD161J-103	10K 1/6W CARBON RES	G
	R149	QRD161J-103	10K 1/6W CARBON RES	GI
	R149	QRD167J-223	22K 1/6W CARBON RES	U
	R149	QRD167J-223	22K 1/6W CARBON RES	US
	R149	QRD167J-223	22K 1/6W CARBON RES	UT
	R149	QRD161J-103	10K 1/6W CARBON RES	VX
	R150	QRD167J-332	3.3K 1/6W CARBON RES	
	R151	QRD167J-332	3.3K 1/6W CARBON RES	
	R152	QRD167J-822	8.2K 1/6W CARBON RES	A
	R152	QRD167J-332	3.3K 1/6W CARBON RES	BS
	R152	QRD167J-822	8.2K 1/6W CARBON RES	EF
	R152	QRD167J-822	8.2K 1/6W CARBON RES	EN
	R152	QRD167J-822	8.2K 1/6W CARBON RES	G
	R152	QRD167J-822	8.2K 1/6W CARBON RES	GI
	R152	QRD167J-332	3.3K 1/6W CARBON RES	U
	R152	QRD167J-332	3.3K 1/6W CARBON RES	US
	R152	QRD167J-332	3.3K 1/6W CARBON RES	UT
	R152	QRD167J-822	8.2K 1/6W CARBON RES	VX
	R153	QRD167J-822	8.2K 1/6W CARBON RES	A
	R153	QRD167J-332	3.3K 1/6W CARBON RES	BS
	R153	QRD167J-822	8.2K 1/6W CARBON RES	EF
	R153	QRD167J-822	8.2K 1/6W CARBON RES	EN
	R153	QRD167J-822	8.2K 1/6W CARBON RES	G
	R153	QRD167J-822	8.2K 1/6W CARBON RES	GI
	R153	QRD167J-332	3.3K 1/6W CARBON RES	U
	R153	QRD167J-332	3.3K 1/6W CARBON RES	US
	R153	QRD167J-332	3.3K 1/6W CARBON RES	UT
	R153	QRD167J-822	8.2K 1/6W CARBON RES	VX
	R161	QRD161J-473	47K 1/6W CARBON RES	
	R162	QRD161J-222	2.2K 1/6W CARBON RES	
	R181	QRD161J-222	2.2K 1/6W CARBON RES	
	R182	QRD161J-103	10K 1/6W CARBON RES	
	R183	QRD161J-103	10K 1/6W CARBON RES	
	R184	QRD161J-103	10K 1/6W CARBON RES	

⚠ :SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMW10477-003	PRINTED BOA	
		FSKL4005-001	SHIELD PLAT	
		VYH7653-002	I.C.SOCKET	
		VYH7653-004	I.C.PROTECT	
	J103	EMV5109-007A	MALE CONNEC	
	L102	EQL4004-150	INDUCTOR	BS
	L102	EQL4004-150	INDUCTOR	EF
	L102	EQL4004-150	INDUCTOR	EN
	L102	EQL4004-150	INDUCTOR	G
	L102	EQL4004-150	INDUCTOR	GI
	L102	EQL4004-150	INDUCTOR	VX
	L121	EQL4004-1R0	INDUCTOR	
	L141	VQP0001-392ZS	INDUCTOR	BS
	L141	VQP0001-392ZS	INDUCTOR	EF
	L141	VQP0001-392ZS	INDUCTOR	EN
	L141	VQP0001-392ZS	INDUCTOR	G
	L141	VQP0001-392ZS	INDUCTOR	GI
	L141	VQP0001-392ZS	INDUCTOR	VX
	L181	EQL4004-1R0	INDUCTOR	
	T111	EQR7121-007	RF COIL	A
	T111	EQR7121-006	RF COIL	BS
	T111	EQR7121-006	RF COIL	EF
	T111	EQR7121-006	RF COIL	EN
	T111	EQR7121-005	RF COIL	G
	T111	EQR7121-006	RF COIL	GI
	T111	EQR7121-007	RF COIL	U
	T111	EQR7121-007	RF COIL	US
	T111	EQR7121-007	RF COIL	UT
	T111	EQR7121-006	RF COIL	VX
	T141	EQT2140-021	I.F.TRANSFO	

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	T142	ECB1560-010	CERAMIC FIL	
	AT101	EMB41YV-302K	ANTENNA TER	
	CF101	ECB2123-006R	CERAMIC FIL	A
	CF101	ECB2118-007R	CERAMIC FIL	BS
	CF101	ECB2118-007R	CERAMIC FIL	EF
	CF101	ECB2118-007R	CERAMIC FIL	EN
	CF101	ECB2118-007R	CERAMIC FIL	G
	CF101	ECB2118-007R	CERAMIC FIL	GI
	CF101	ECB2123-006R	CERAMIC FIL	U
	CF101	ECB2123-006R	CERAMIC FIL	US
	CF101	ECB2123-006R	CERAMIC FIL	UT
	CF101	ECB2118-007R	CERAMIC FIL	VX
	CF102	ECB2123-006R	CERAMIC FIL	A
	CF102	ECB2118-007R	CERAMIC FIL	BS
	CF102	ECB2118-007R	CERAMIC FIL	EF
	CF102	ECB2118-007R	CERAMIC FIL	EN
	CF102	ECB2118-007R	CERAMIC FIL	G
	CF102	ECB2118-007R	CERAMIC FIL	GI
	CF102	ECB2123-006R	CERAMIC FIL	U
	CF102	ECB2123-006R	CERAMIC FIL	US
	CF102	ECB2123-006R	CERAMIC FIL	UT
	CF102	ECB2118-007R	CERAMIC FIL	VX
	EP101	E70225-001	EARTH PLATE	
	FE101	EAF2203-004	FRONT END	A
	FE101	EAF2203-005	FRONT END	BS
	FE101	EAF2203-005	FRONT END	EF
	FE101	EAF2203-005	FRONT END	EN
	FE101	EAF2203-005	FRONT END	G
	FE101	EAF2203-005	FRONT END	GI
	FE101	EAF2203-004	FRONT END	U
	FE101	EAF2203-004	FRONT END	US
	FE101	EAF2203-004	FRONT END	UT
	FE101	EAF2302-002	FRONT END	VX
	JA101	EMV7140-L10R	PIN CONNECT	
	LP141	EQF0101-002	LOWPASS FIL	
	XT121	ECX0007-200KWJ1	CRYSTAL	
	XT141	ECXPR46-001A	CRYSTAL	
	XT142	ECB1001-002	CERAMIC FIL	

Accessories

Symbol No. M 4 M M

⚠	Item	Part Number	Part Name	Q'ty	Description	Area
	1	E30580-2197A	INSTRUCTION BOOK	1		A
		E30580-2197ABS	INSTRUCTION BOOK	1		BS
		E30580-2198A	INSTRUCTION BOOK	1		EF,G,GI
		E30580-2199A	INSTRUCTION BOOK	1		EN
		E30580-2200A	INSTRUCTION BOOK	1		VX
		E30580-2202A	INSTRUCTION BOOK	1		U,US,UT
	2	QPGA025-03505B	ENVELOPE	1		
	3	EQB4001-015J2	LOOP ANTENNA	1		
⚠	4	V04062-001	AC PLUG	1		U,UT
⚠		ENZ2202-001	SIEMENS PLUG	1		US
	5	BT-56001-1	WARRANTY CARD	1		A
		BT20060	WARRANTY CARD	1		BS
		BT-20066A	WARRANTY CARD	1		BS
		BT-20134	WARRANTY CARD	1		G
	6	E43486-340A	SAFETY SHEET	1		BS
	7	E03614-004	FM FEEDER ANTENNA	1		Except G
		E67007-001	ANTENNA WIRE	1		G
	8	EMZ2001-014	ADAPTOR PLUG	1		Except G
	9	RM-SES300U	WIRE-LESS REMOTE CONTROL	1		Except U,US,UT
		RM-SES300XU	WIRE-LESS REMOTE CONTROL	1		U,US,UT
	10	R03BPA-2STSA	BATTERY	2		

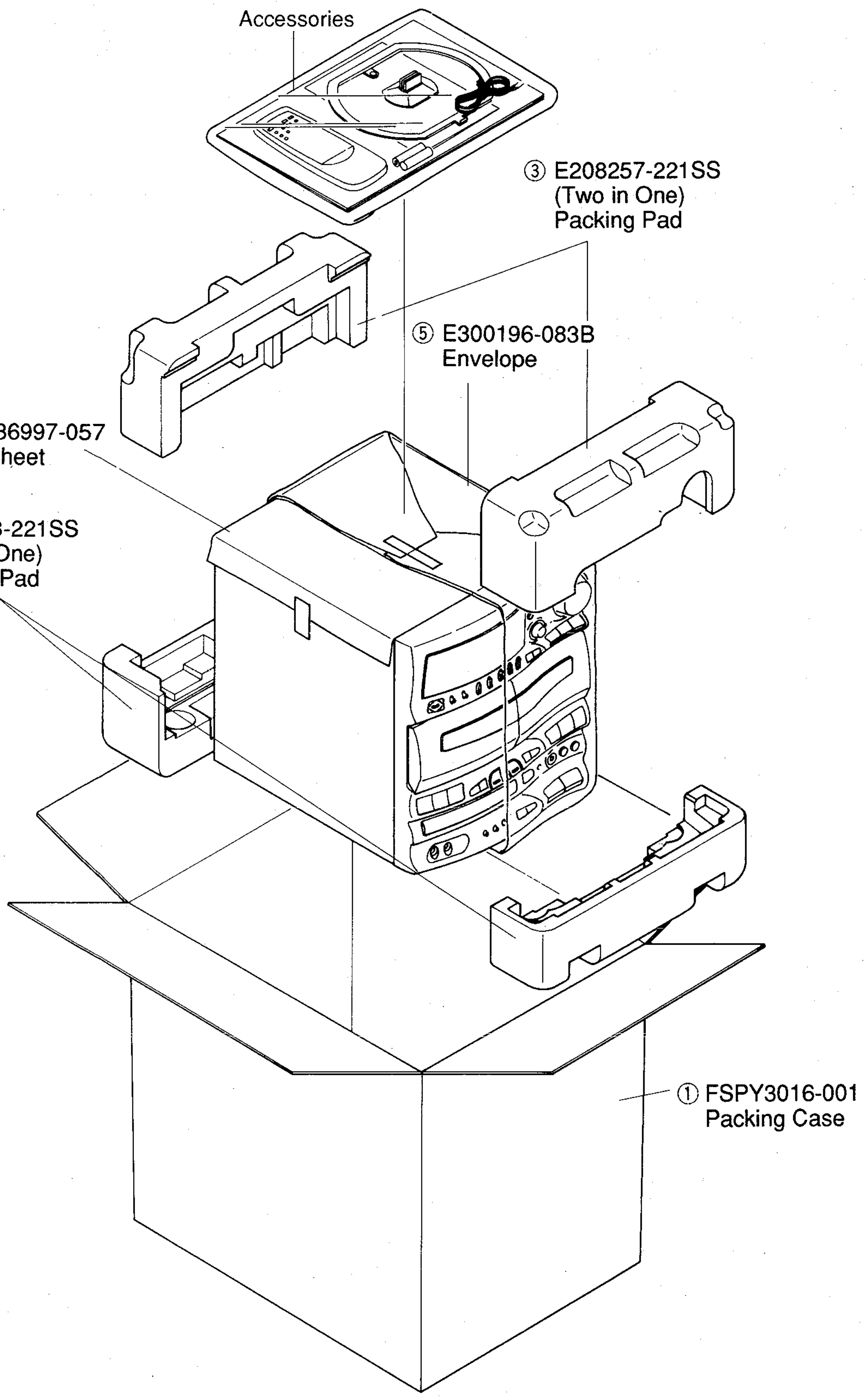
⚠ : Safety Parts

The Marks for Designated Areas

A	Australia	BS	the U.K.	EF	Continental E	EN	Scandinavia
GI ...	Italy	U	Universal Type	US	Singapore	UT ...	Taiwan
VX ...	East Europe	UB	HongKong	No mark indicates all area.			

Packing Materials and Part Numbers

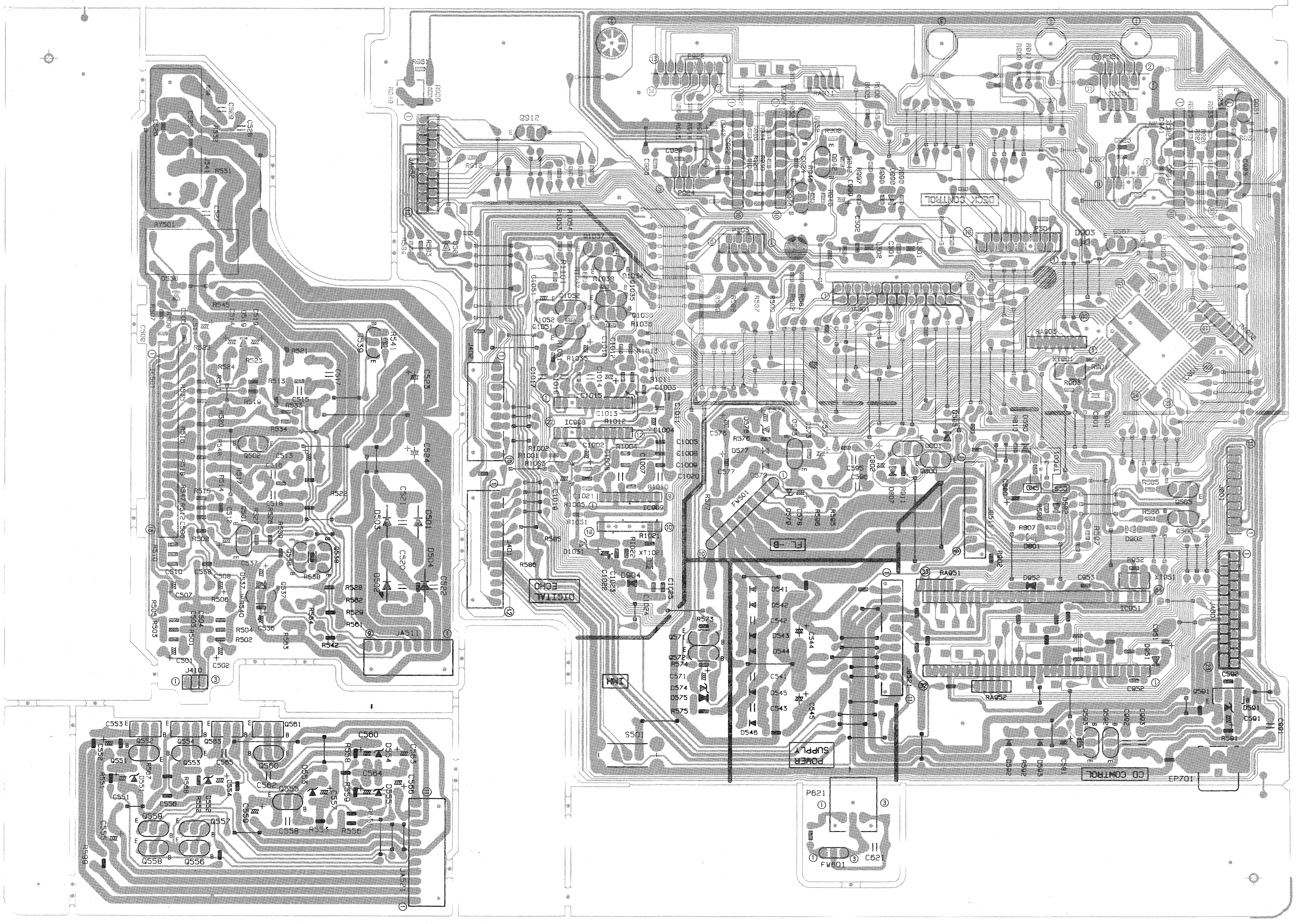
Symbol No. M 5 M M


Accessories
③ E208257-221SS
(Two in One)
Packing Pad
⑤ E300196-083B
Envelope
④ E36997-057
Sheet
② E208258-221SS
(Two in One)
Packing Pad
① FSPY3016-001
Packing Case

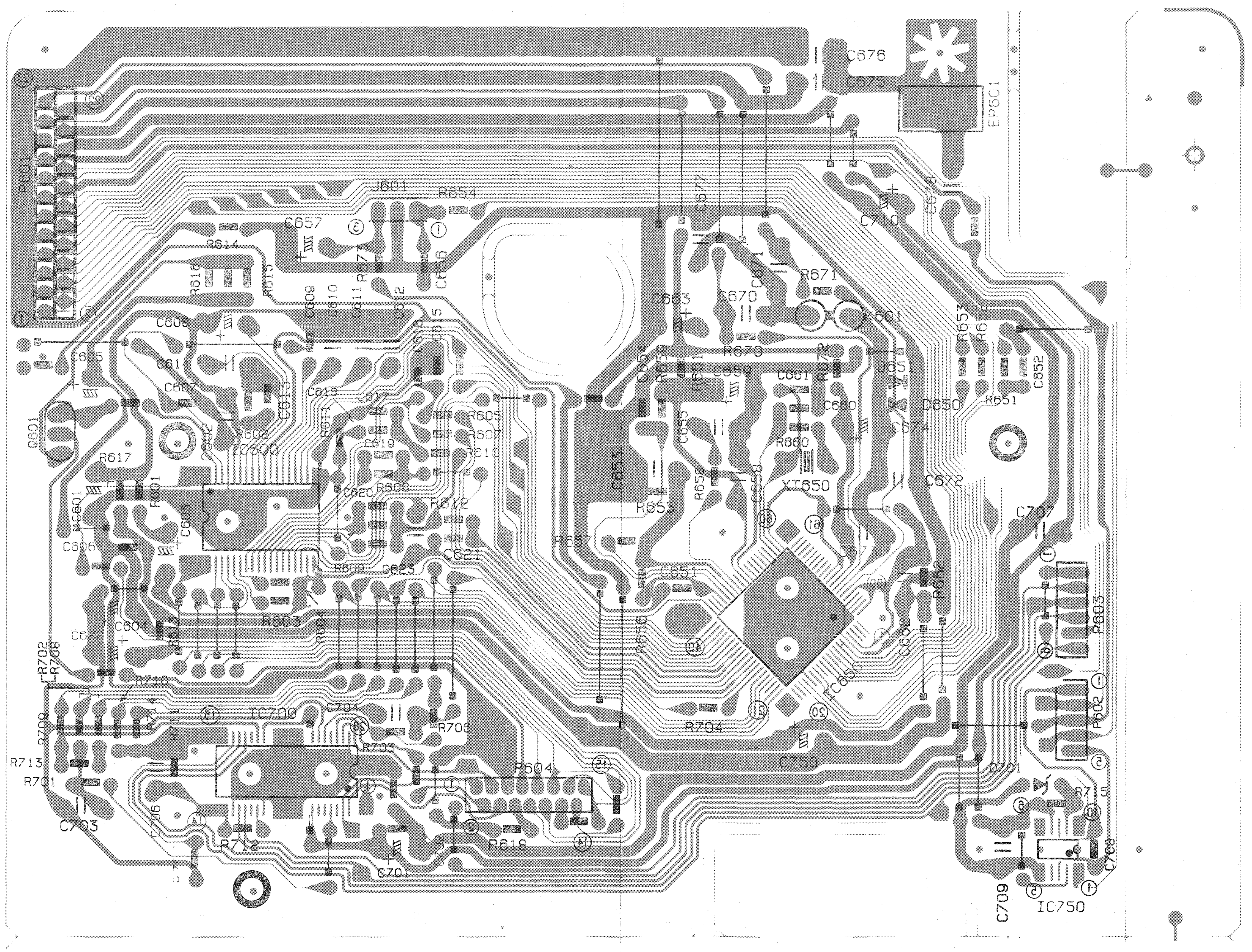
The Marks for Designated Areas

A	Australia	BS ...	the U.K.	EF ...	Continental Europe	EN	Scandinavia
G	Germany	GI ...	Italy	U ...	Universal Type	US ...	Singapore
UT ...	Taiwan	VX ..	East Europe	UB ..	HongKong	No mark indicates all area.	

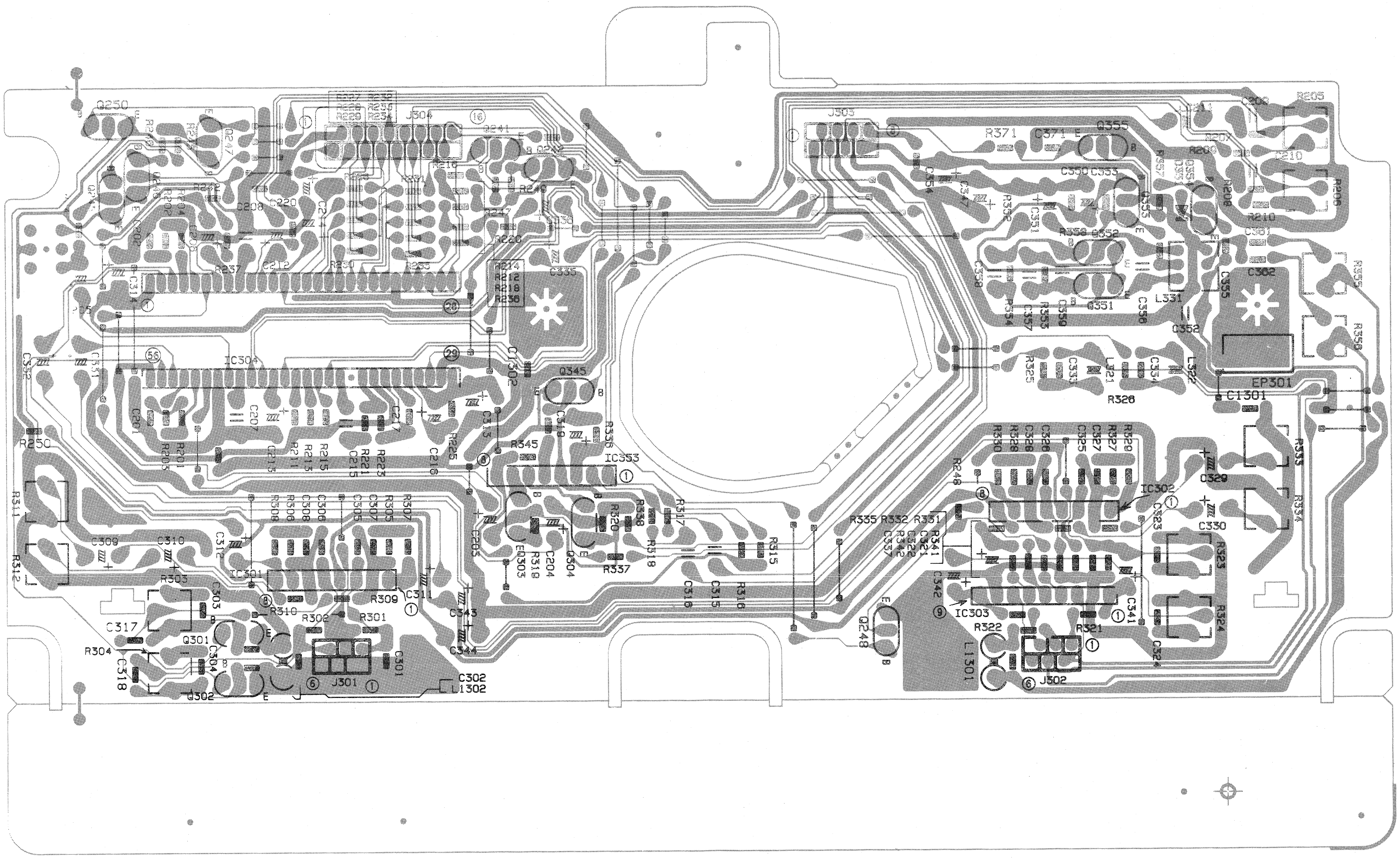
■ Control & Amplifier P.C. Board (ENH-251)


DECK CONTROL
DIGITAL ECHO
POWER SUPPLY
CD CONTROL
FL-B
RY501
JA511
JA521
J410
IC501
IC951
RA951
RA952
XT951
S501
P621
FW601
C621
EP701
Q912
JA652
JA301
JA401
JA402
IC1003
IC1009
D1031
XT1021
D904
FW501

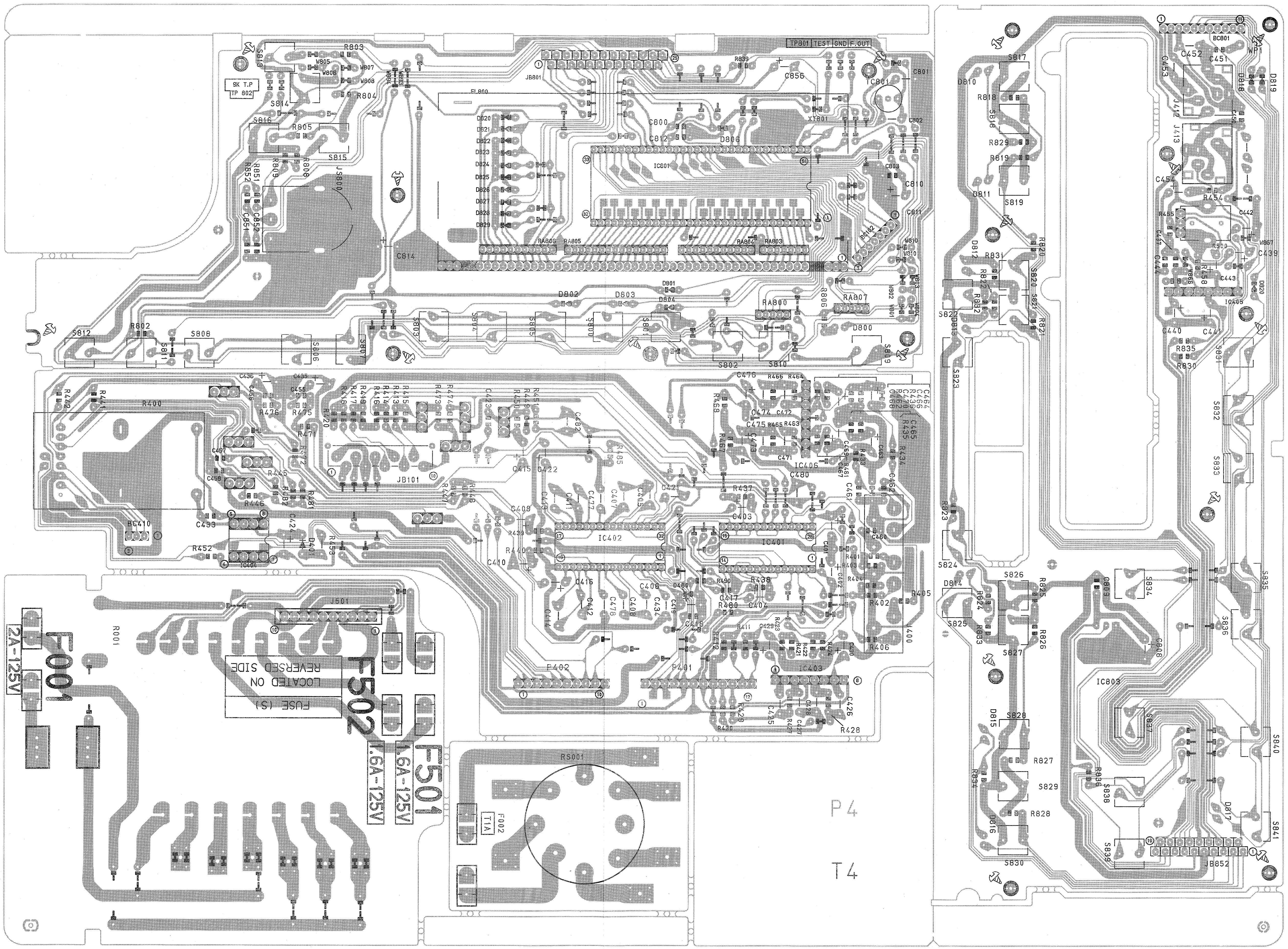
■ CD Servo P.C. Board (ENN-422)


P601
J601
R654
C657
C656
R673
R614
R616
R615
C609
C610
C611
C612
C676
C675
EP601
C677
C671
C663
C670
R671
K601
C678
C710
R653
R652
C652
C608
C605
C614
C607
C613
C618
C615
C616
C617
C619
R602
R611
R605
R607
R610
R606
IC600
C602
R617
Q601
R601
C603
C606
R612
C620
R609
C623
C621
C654
R659
R661
C659
R670
R672
C651
D651
D650
R651
C660
C674
C655
R660
C653
R658
C658
XT650
C672
C707
R655
R657
C651
R662
C662
IC650
P603
C604
R613
R603
R604
R656
C622
R702
R708
R710
R709
R714
R711
IC700
C704
R706
R703
R704
C750
P602
D701
R715
R713
R701
C703
C706
R712
C701
C702
R618
R604
C709
IC750
C708

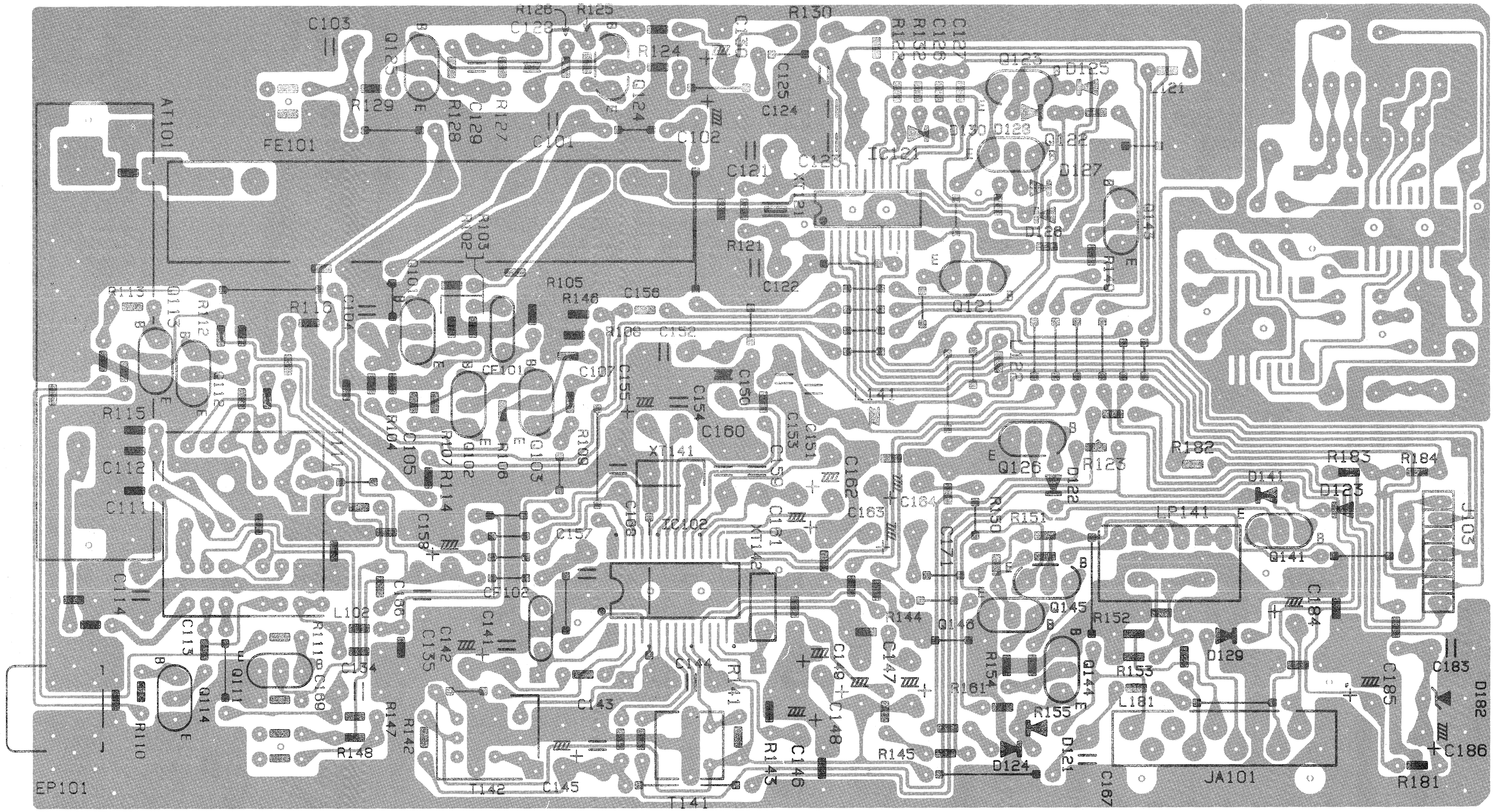
■ Deck Control P.C. board (ENJ-083)


J304
J303
J301
J302
IC304
IC353
IC301
IC302
IC303
EP301
Q250
Q345
Q355
Q351
Q352
Q301
Q302
Q248
L1301
L1302
C1301
C1302
L331
L321
L322

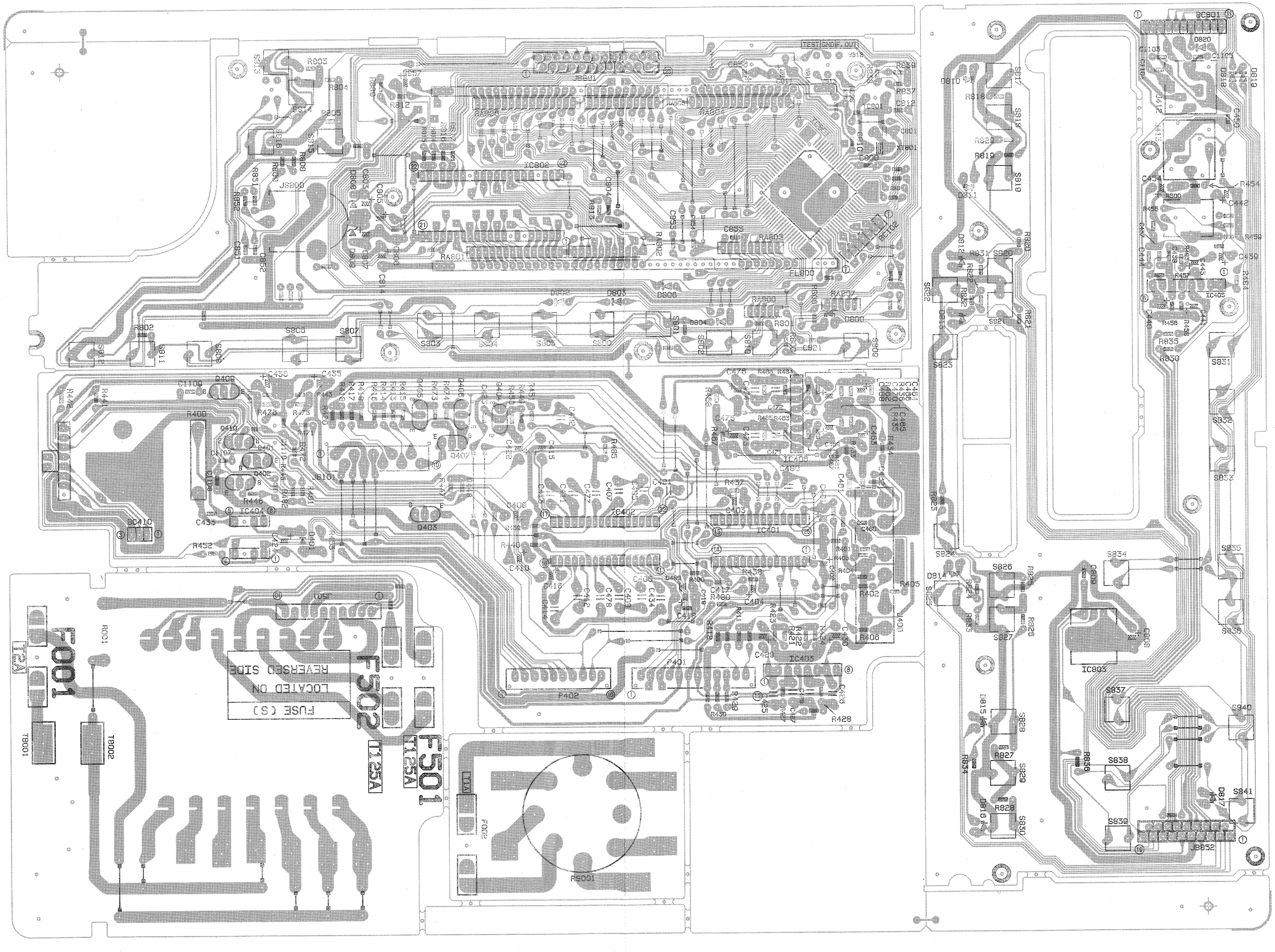
■ Front Section (FSB-001)


SK T.P
TP 802
TP801 TEST GND F.OUT
IC601
IC402
IC401
IC403
IC404
IC406
IC803
JB801
JB101
JB852
J501
P402
P401
FL800
XT801
RS001
F001
2A-125V
F501
1.6A-125V
F502
1.6A-125V
F002
T1A
FUSE (S)
LOCATED ON
REVERSED SIDE
R001
R400
BC801
BC410
S812
S806
S802
S810
S817
S819
S826
S827
S828
S829
S830
S834
S835
S836
S838
S839
S840
S841
P4
T4

■ Tuner P.C. board (ENA-159)


C103
R126
R125
C123
R124
R130
C130
C125
C124
Q125
R129
R128
C129
R127
Q124
C101
C102
AT101
FE101
C121
C126
C127
Q123
D125
L121
IC121
D130
D128
Q122
D127
XT121
R121
C122
D126
Q143
R149
Q121
R105
R146
C156
R116
C104
Q101
R102
R103
Q113
R112
Q112
R108
C152
CF101
C107
R115
C155
C154
C150
L141
C112
C111
R104
C105
R107
Q102
R106
Q103
R109
C160
C153
C151
XT141
C159
C162
Q126
R123
R182
R183
R184
D141
D123
J103
R114
C158
C157
C166
IC102
XT142
C161
C163
C164
R150
R151
C171
LP141
Q141
C114
CF102
L102
C106
R111
C141
C113
C142
C135
C134
C109
Q111
Q114
R110
R147
R142
R148
C144
R141
C149
C147
R144
Q148
Q145
R152
C184
D129
C183
R154
Q144
R153
R161
R155
L181
C185
D182
C186
C143
C145
T142
T141
R143
C146
C148
R145
D124
D121
C167
JA101
R181
EP101

Power & Front P.C. board


IC802
IC801
FL800
JS800
JS801
RA801
RA802
RA803
RA806
RA807
X801
S801
S802
S803
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S805
S806
S807
S808
S809
S810
S811
S812
S813
S814
S815
S816
S817
S818
S819
S820
S821
S822
S823
S824
S825
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S827
S828
S829
S830
S831
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S833
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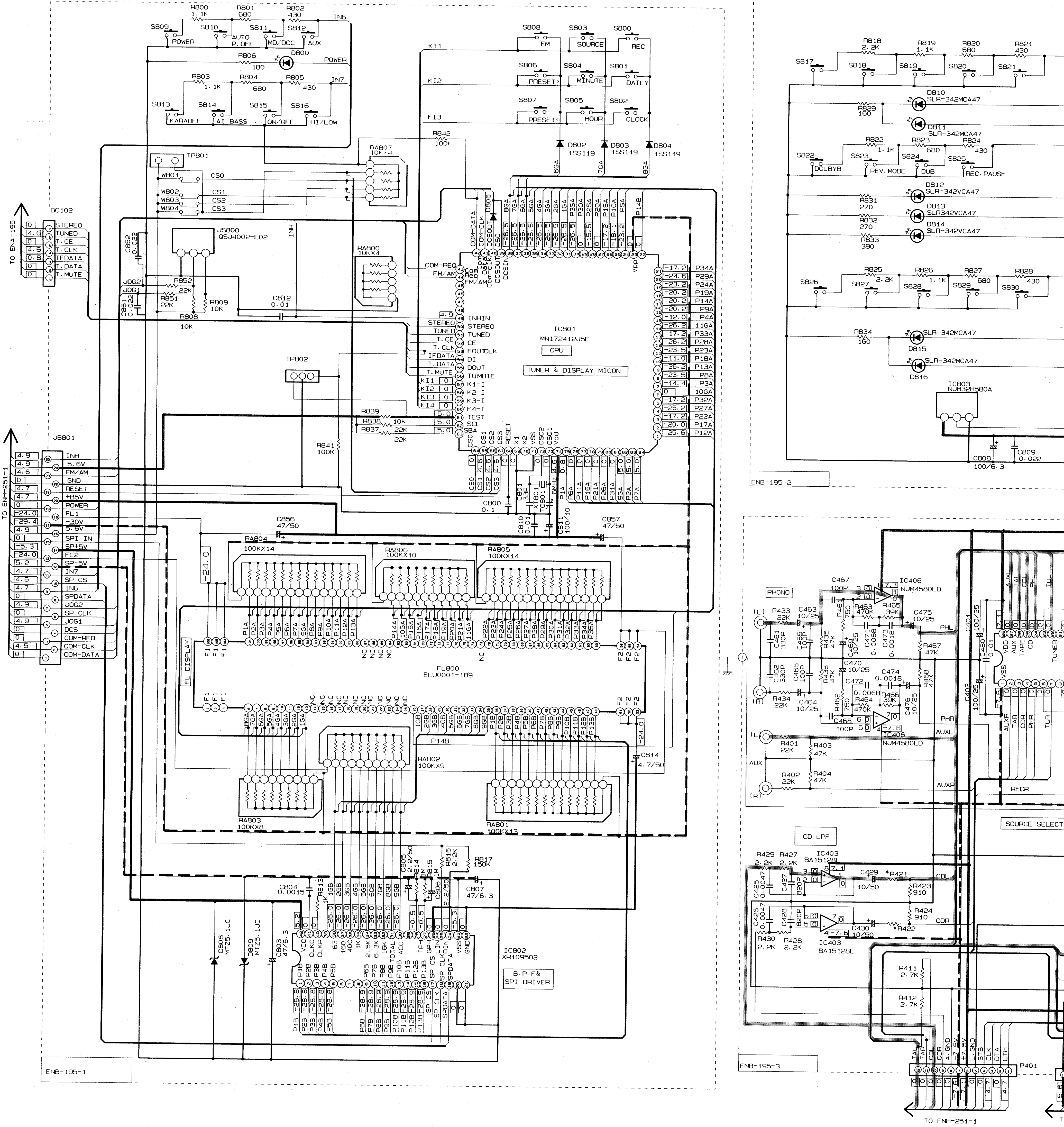
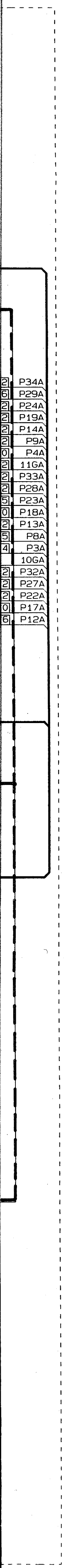
S835
S836
S837
S838
S839
S840
S841
IC401
IC402
IC403
IC404
IC405
IC409
IC803
BC410
BC801
JB852
J6101
P401
P402
Q401
Q402
Q403
Q405
Q406
Q407
Q408
Q409
Q410
F001
T2A
F501
T1.25A
F502
T1.25A
F002
T1A
TB001
TB002
R001
RS001
FUSE (S)
LOCATED ON
REVERSED SIDE
TEST GND IF OUT

Front & Audio Selector Section

ALL DC VOLTAGES MEASURED WITH OSCILLOSCOPE
THE CONDITIONS OF THE SET ARE
1) POWER ON
2) FM MODE
3)DECK, CD & MUSIC JOG OFF



IC801
MN172412J5E
CPU
TUNER & DISPLAY MICON
FL800
ELU0001-189
FL DISPLAY
IC802
XR109502
B.P.F& SPI DRIVER
JS800
QSJ4002-E02
TP801
TP802
JB801
BC102
TO ENA-195
TO ENH-251-1
RA800 10KX4
RA807 10K X4
RA804 100KX14
RA806 100KX10
RA805 100KX14
RA803 100KX8
RA802 100KX9
RA801 100KX13
S809 POWER
S810 AUTO P.OFF
S811 MD/DCC
S812 AUX
S813 KARAOKE
S814 AI BASS
S815 ON/OFF
S816 HI/LOW
S808 FM
S803 SOURCE
S800 REC
S806 PRESET>
S804 MINUTE
S801 DAILY
S807 PRESET<
S805 HOUR
S802 CLOCK
D800 POWER
D802 1SS119
D803 1SS119
D804 1SS119
ENB-195-1
ENB-195-2
ENB-195-3
S817
S818
S819
S820
S821
S822 DOLBYB
S823 REV.MODE
S824 DUB
S825 REC.PAUSE
S826
S827
S828
S829
S830
D810 SLR-342MCA47
D811 SLR-342MCA47
D812 SLR-342VCA47
D813 SLR342VCA47
D814 SLR-342VCA47
D815 SLR-342MCA47
D816 SLR-342MCA47
IC803 NJM32H580A
C808 100/6.3
C809 0.022
PHONO
IC406 NJM4580LD
AUX
CD LPF
IC403 BA15128L
SOURCE SELECT
P401
TO ENH-251-1
PHL
PHR
AUXL
AUXR
CDL
CDR
RECR


P34A
P29A
P24A
P19A
P14A
P9A
P4A
11GA
P33A
P28A
P23A
P18A
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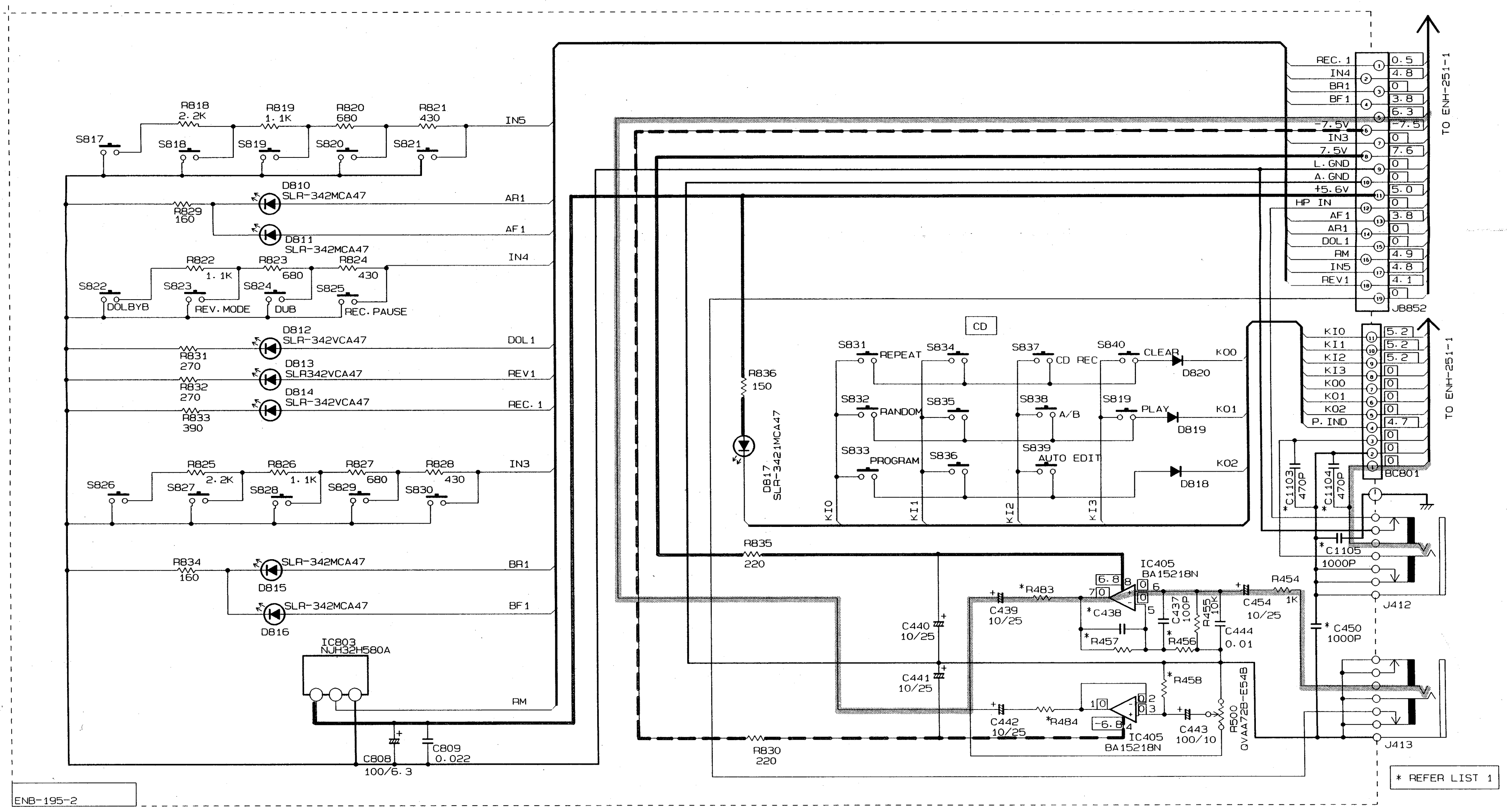
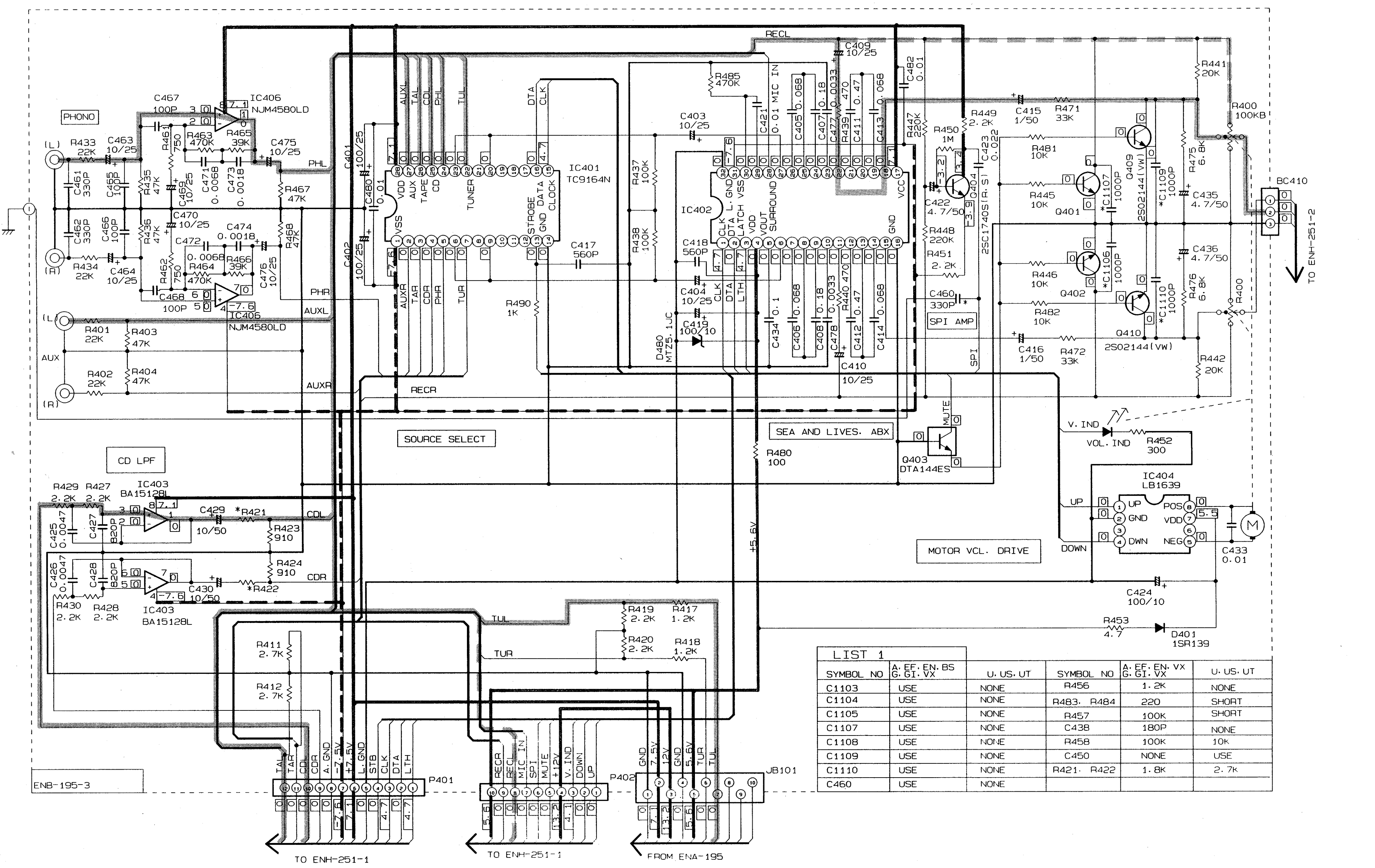
P8A
P3A
10GA
P32A
P27A
P22A
P17A
P12A

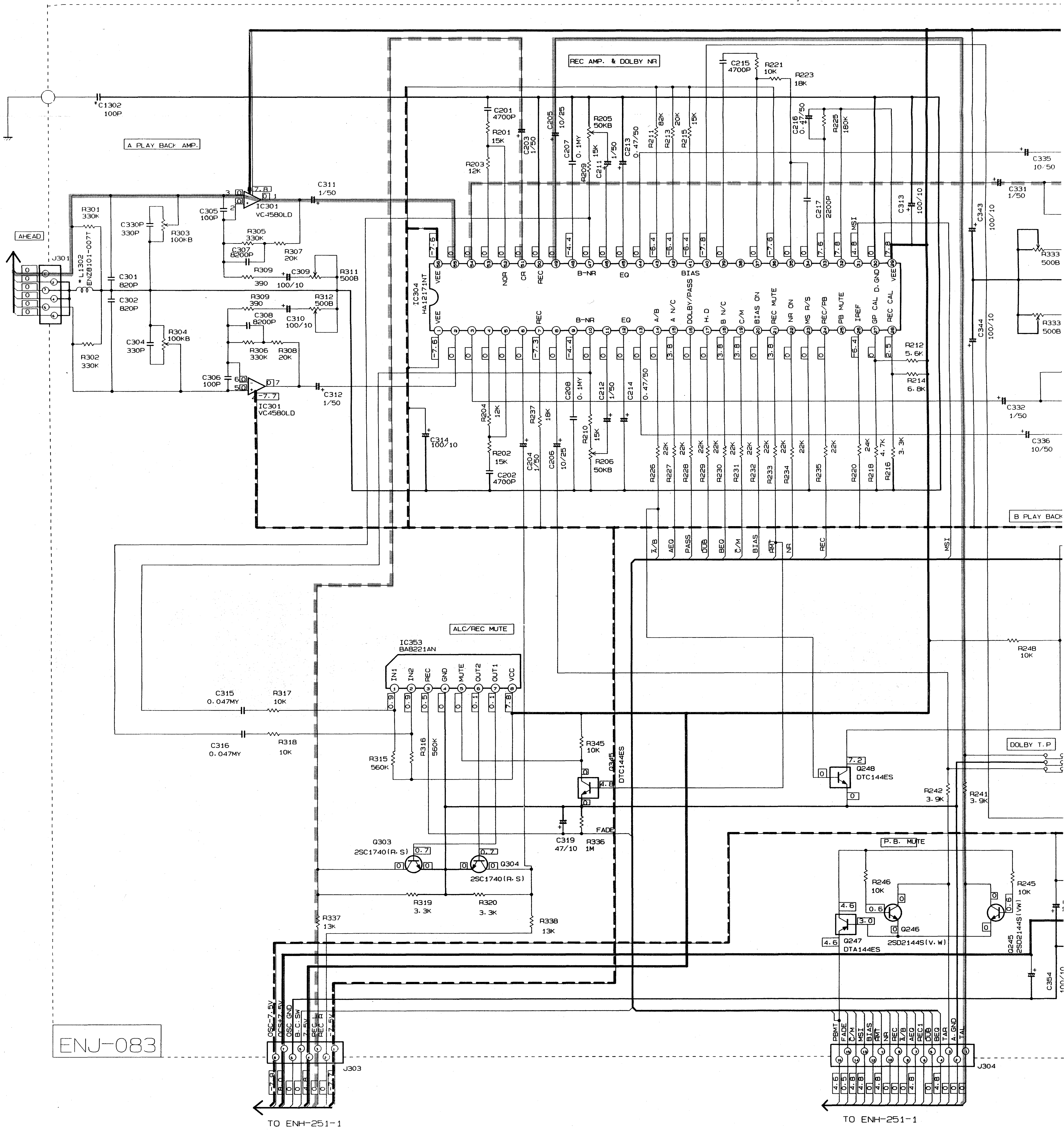

S817
S818
S819
S820
S821
R818 2.2K
R819 1.1K
R820 680
R821 430
IN5
D810 SLR-342MCA47
R829 160
AR1
AF1
D811 SLR-342MCA47
S822 DOLBYB
S823 REV.MODE
S824 DUB
S825 REC.PAUSE
R822 1.1K
R823 680
R824 430
IN4
D812 SLR-342VCA47
R831 270
DOL1
D813 SLR342VCA47
R832 270
REV1
D814 SLR-342VCA47
R833 390
REC.1
S826
S827
S828
S829
S830
R825 2.2K
R826 1.1K
R827 680
R828 430
IN3
R834 160
SLR-342MCA47
D815
BR1
SLR-342MCA47
D816
BF1
IC803 NJM32H580A
RM
C808 100/6.3
C809 0.022
R836 150
D817 SLR-342IMCA47
R835 220
R830 220
CD
S831 REPEAT
S834
S837 CD REC
S840 CLEAR
D820
K00
S832 RANDOM
S835
S838 A/B
S819 PLAY
D819
K01
S833 PROGRAM
S836
S839 AUTO EDIT
D818
K02
KI0
KI1
KI2
KI3
IC405 BA15218N
R483
C438
C439 10/25
C440 10/25
R457
C437 100P
R455 10K
R456
C444 0.01
C454 10/25
R454 1K
C441 10/25
R458
C442 10/25
R484
C443 100/10
R500 QVAA728-E54B
C450 1000P
REC.1
IN4
BR1
BF1
-7.5V
IN3
7.5V
L.GND
A.GND
+5.6V
HP IN
AF1
AR1
DOL1
RM
IN5
REV1
JB852
TO ENH-251-1
KI0
KI1
KI2
KI3
K00
K01
K02
P.IND
BC801
C1103 470P
C1104 470P
C1105 1000P
J412
J413
TO ENH-251-1
* REFER LIST 1
ENB-195-2


PHONO
C467 100P
IC406 NJM4580LD
R463 470K
R465 39K
C475 10/25
PHL
R433 22K
C463 10/25
C461 330P
C465 100P
R435 47K
R461 750
C469 10/25
C471 0.0068
C473 0.0018
R467 47K
C470 10/25
C462 330P
C466 100P
R436 47K
C472 0.0068
C474 0.0018
R468 47K
R434 22K
C464 10/25
R462 750
R464 470K
R466 39K
C476 10/25
C468 100P
IC406 NJM4580LD
PHR
AUXL
AUX
R401 22K
R403 47K
R402 22K
R404 47K
AUXR
RECR
RECL
SOURCE SELECT
C401 100/25
C402 100/25
C480 0.01
IC401 TC9164N
VDD AUX TAPE CD TUNER PHL
STROBE GND DATA CLOCK
AUXL TAL CDL PHL TUL
AUXR TAR CDR PHR TUR
DTA CLK
C417 560P
R437 100K
R438 100K
R490 1K
R485 470K
C403 10/25
IC402
C418 560P
C404 10/25
C419 100/10
D480 MTZ5.1JC
C421 0.01 MIC IN
C405 0.068
C407 0.18
C472 0.0033
R439 470
C411 0.47
C413 0.068
C409 10/25
C482 0.01
R487 22K
C434 0.1
C406 0.068
C408 0.18
C478 0.0033
R440 470
C412 0.47
C414 0.068
C410 10/25
SEA AND LIVES, ABX
R480 100
+5.6V
MUTE
Q403 DTA144ES
R450 1M
R449 2.2K
C423 0.022
C422 4.7/50
Q404 2SC1740S(R,S)
R448 220K
R451 2.2K
C460 330P
SPI AMP
SPI
C415 1/50
R471 33K
R481 10K
R445 10K
Q401
C1107 1000P
Q409 2SD2144(VW)
C1109 1000P
R475 6.8K
C435 4.7/50
R441 20K
R400 100KB
BC410
TO ENH-251-2
R446 10K
Q402
C1108 1000P
R482 10K
Q410 2SD2144(VW)
C1110 1000P
R476 6.8K
C436 4.7/50
R400
C416 1/50
R472 33K
R442 20K
V.IND
VOL.IND
R452 300
IC404 LB1639
UP GND DWN POS VDD NEG
C433 0.01
M
UP
DOWN
MOTOR VCL. DRIVE
C424 100/10
R453 4.7
D401 1SR139
CD LPF
R429 2.2K
R427 2.2K
IC403 BA15128L
C425 0.0047
C427 820P
C429 10/50
R421
R423 910
CDL
C426 0.0047
C428 820P
C430 10/50
R424 910
R422
CDR
R430 2.2K
R428 2.2K
IC403 BA15128L
TUL
TUR
R419 2.2K
R417 1.2K
R420 2.2K
R418 1.2K
R411 2.7K
R412 2.7K
TAL TAR CDL CDR A.GND -7.5V +7.5V L.GND STB CLK DTA LTH
P401
RECR RECL MIC IN SPI MUTE +12V V.IND DOWN UP
P402
GND 7.5V 12V GND 5.6V TUR TUL
JB101
TO ENH-251-1
TO ENH-251-1
FROM ENA-195
ENB-195-3

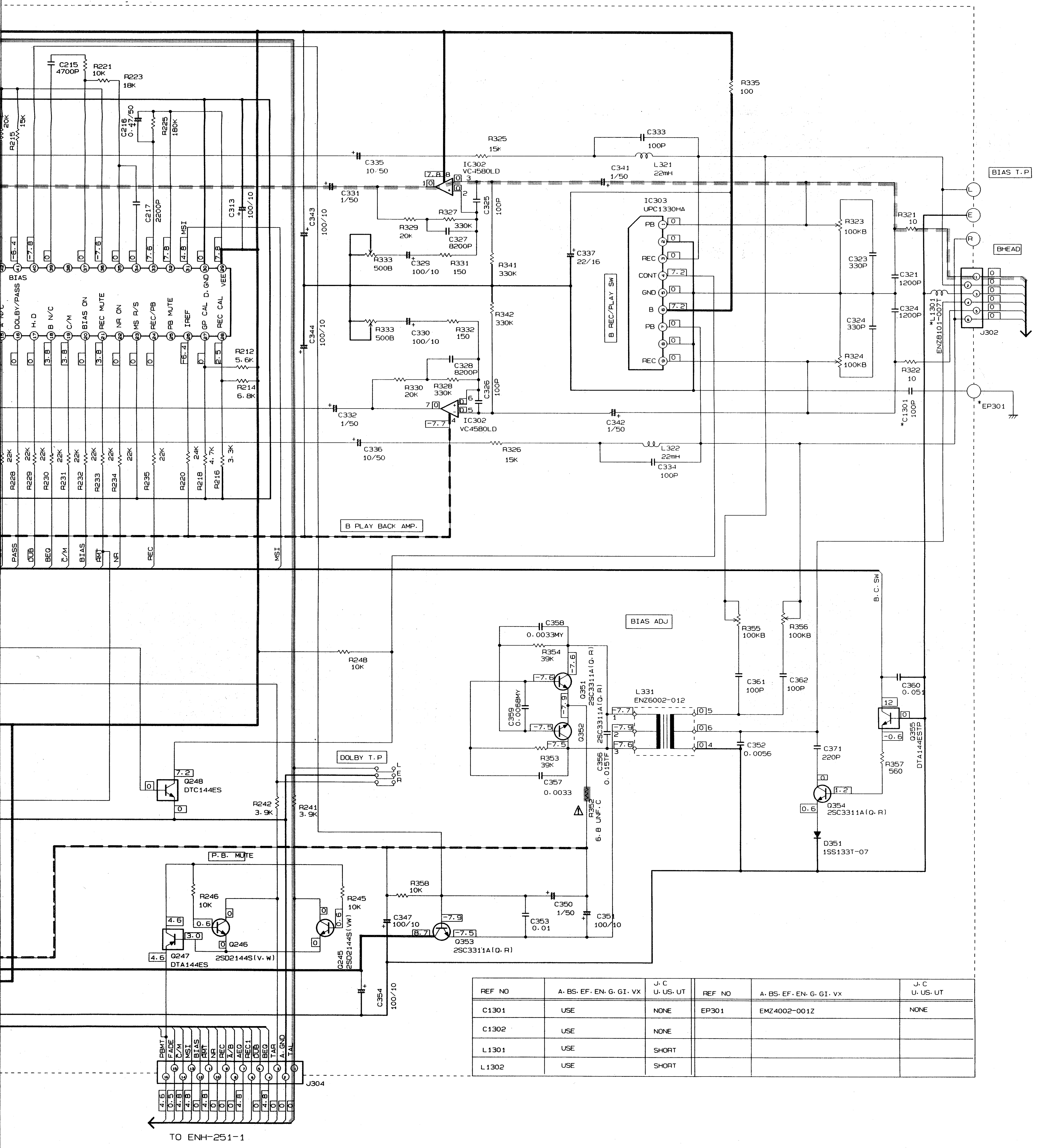
LIST 1					
SYMBOL NO	A. EF. EN. BS G. GI. VX	U. US. UT	SYMBOL NO	A. EF. EN. VX G. GI. VX	U. US. UT
C1103	USE	NONE	R456	1.2K	NONE
C1104	USE	NONE	R483, R484	220	SHORT
C1105	USE	NONE	R457	100K	SHORT
C1107	USE	NONE	C438	180P	NONE
C1108	USE	NONE	R458	100K	10K
C1109	USE	NONE	C450	NONE	USE
C1110	USE	NONE	R421, R422	1.8K	2.7K
C460	USE	NONE			

■ Deck Control Section

ALL DC VOLTAGES MEASURED WITH OSCILLOSCOPE
THE CONDITIONS OF THE SET ARE
1) POWER ON
2) DECK & CD OFF

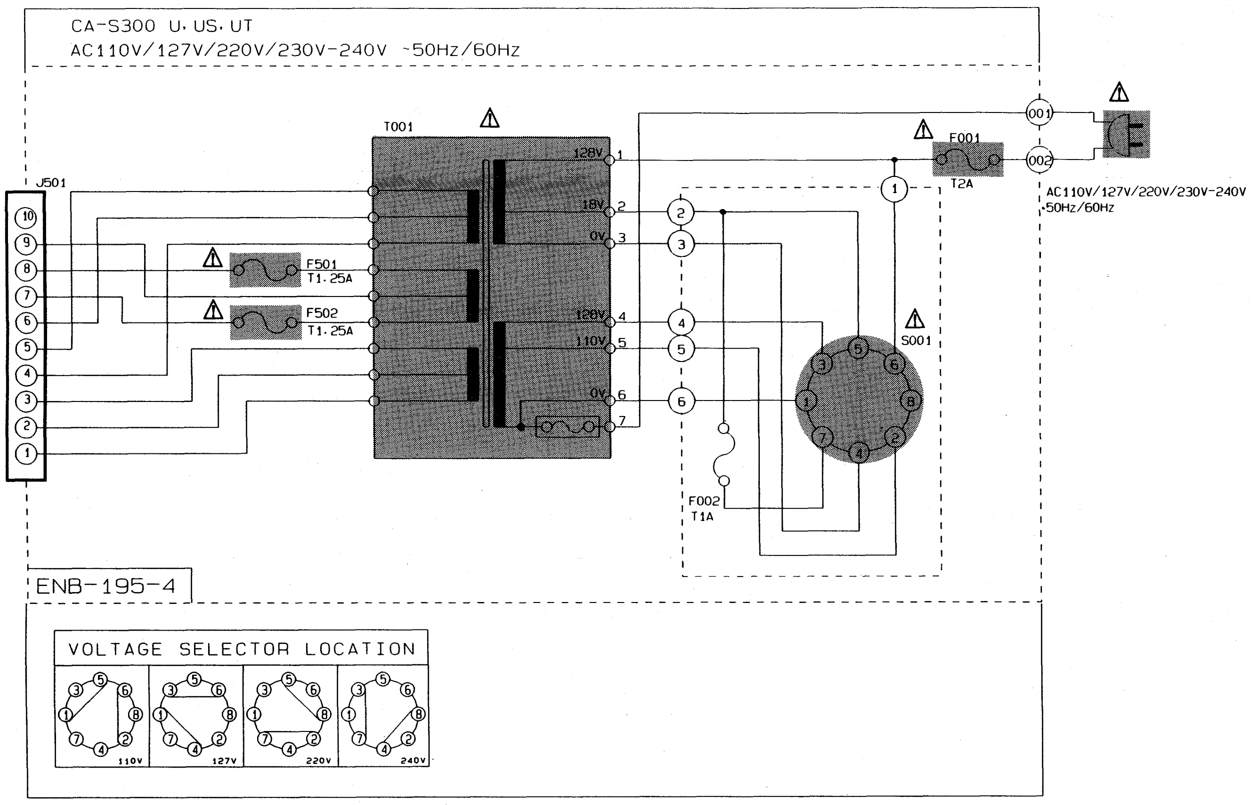


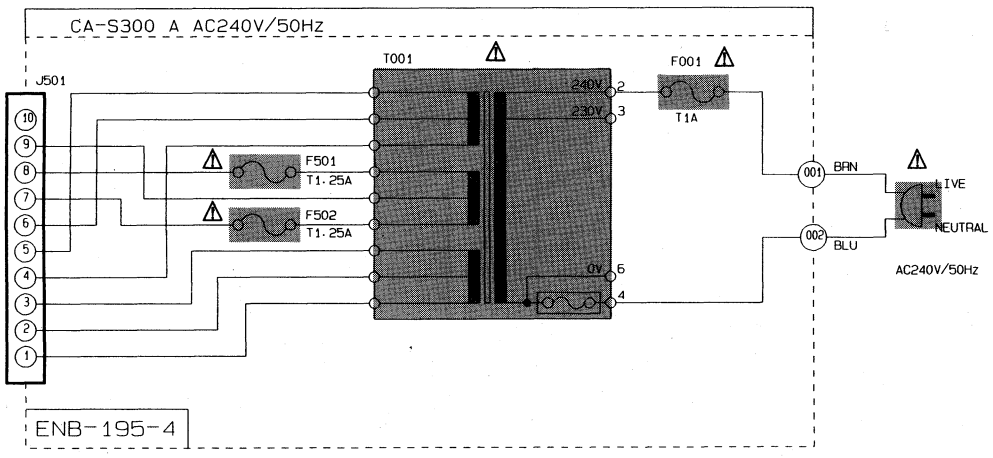
A PLAY BACK AMP.
AHEAD
J301
L1302 ENZ8101-0071
C1302 100P
R301 330K
R302 330K
C301 820P
C302 820P
C330P 330P
C304 330P
R303 100KB
R304 100KB
C305 100P
C306 100P
IC301 VC4580LD
R305 330K
C307 8200P
R307 20K
R309 390
C309 100/10
R311 500B
R312 500B
C308 8200P
C310 100/10
R306 330K
R308 20K
C311 1/50
C312 1/50
C314 100/10
REC AMP. & DOLBY NR
IC304 HA12171NT
VEE
NOR
CR
REC
B-NR
EQ
BIAS
A/B
A N/C
DOLBY/PASS
H.D
B N/C
C/M
BIAS ON
REC MUTE
NR ON
MS R/S
REC/PB
PB MUTE
IREF
GP CAL
D.GND
REC CAL
C201 4700P
R201 15K
R203 12K
C203 1/50
C205 10/25
C207 0.1MY
R209 15K
R205 50KB
C211 1/50
C213 0.47/50
R211 82K
R213 20K
R215 15K
C215 4700P
R221 10K
R223 18K
C216 0.47/50
R225 180K
C217 2200P
MSI
C313 100/10
C343 100/10
C344 100/10
C335 10/50
C331 1/50
C332 1/50
C336 10/50
R333 500B
R212 5.6K
R214 6.8K
R204 12K
R202 15K
C202 4700P
R237 18K
C204 1/50
C206 10/25
C208 0.1MY
R210 15K
R206 50KB
C212 1/50
C214 0.47/50
R226 22K
R227 22K
R228 22K
R229 22K
R230 22K
R231 22K
R232 22K
R233 22K
R234 22K
R235 22K
R220
R218 24K
R216 4.7K
3.3K
B PLAY BACK
A/B
AEQ
PASS
DUB
BEQ
C/M
BIAS
AMT
NR
REC
ALC/REC MUTE
IC353 BA8221AN
IN1
IN2
REC
GND
MUTE
OUT2
OUT1
VCC
C315 0.047MY
R317 10K
C316 0.047MY
R318 10K
R315 560K
R316 560K
R345 10K
Q345 DTC144ES
C319 47/10
R336 1M
FADE
Q303 2SC1740(R.S)
Q304 2SC1740(R.S)
R319 3.3K
R320 3.3K
R337 13K
R338 13K
R248 10K
DOLBY T.P
Q248 DTC144ES
R242 3.9K
R241 3.9K
P.B. MUTE
R246 10K
R245 10K
Q246 2SD2144S(V.W)
Q247 DTA144ES
Q245 2SD2144S(VW)
C354 100/10
ENJ-083
OSC-7.5V
OSC+7.5V
OSC GND
B.C.SW
7.5V
REC L
REC R
-7.5V
J303
TO ENH-251-1
PBMT
FADE
C/M
MSI
BIAS
AMT
NR
REC
A/B
AEQ
REC1
DUB
BEQ
TAR
A.GND
TAL
J304
TO ENH-251-1

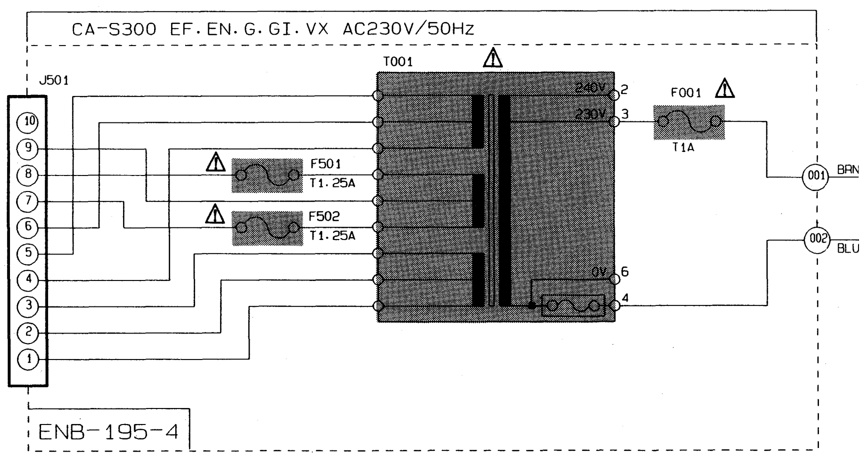

C215 4700P
R221 10K
R223 18K
R215 15K
20K
C216 0.47/50
R225 180K
C217 2200P
C313 100/10
C343 100/10
C344 100/10
BIAS
DOLBY/PASS
H.D
B N/C
C/M
BIAS ON
REC MUTE
NR ON
MS R/S
REC/PB
PB MUTE
IREF
GP CAL
D.GND
REC CAL
VEE
MSI
R212 5.6K
R214 6.8K
R228 22K
R229 22K
R230 22K
R231 22K
R232 22K
R233 22K
R234 22K
R235 22K
R220 24K
R218 4.7K
R216 3.3K
PASS
DUB
BEQ
C/M
BIAS
ANT
NR
REC
MSI
R335 100
R325 15K
C335 10/50
IC302 VC4580LD
C331 1/50
R327 330K
C325 100P
R329 20K
C327 8200P
R333 500B
C329 100/10
R331 150
R341 330K
C341 1/50
C333 100P
L321 22mH
IC303 UPC1330HA
PB
REC
CONT
GND
B
C337 22/16
B REC/PLAY SW
R323 100KB
C323 330P
C324 330P
R324 100KB
R321 10
C321 1200P
C324 1200P
*L1301 ENZ8101-007T
J302
BIAS T.P
BHEAD
L
E
R
R342 330K
R333 500B
C330 100/10
R332 150
C328 8200P
R330 20K
R328 330K
C326 100P
C332 1/50
IC302 VC4580LD
C342 1/50
R322 10
*C1301 100P
*EP301
C336 10/50
R326 15K
L322 22mH
C334 100P
B PLAY BACK AMP.
BIAS ADJ
C358 0.0033MY
R354 39K
Q351 2SC3311A(Q.R)
C359 0.006BMY
Q352 2SC3311A(Q.R)
R353 39K
C357 0.0033
C356 0.015TF
R352 6.8 UNF.C
L331 ENZ6002-012
R355 100KB
R356 100KB
C361 100P
C362 100P
C352 0.0056
C371 220P
C360 0.051
B.C.SW
Q355 DTA144ESTP
R357 560
Q354 2SC3311A(Q.R)
D351 1SS133T-07
R248 10K
DOLBY T.P
Q248 DTC144ES
R242 3.9K
R241 3.9K
P.B. MUTE
R246 10K
R245 10K
Q246 2SD2144S(V.W)
Q245 2SD2144S(V.W)
Q247 DTA144ES
R358 10K
C347 100/10
Q353 2SC3311A(Q.R)
C350 1/50
C353 0.01
C351 100/10
C354 100/10
PBMT
FADE
C/M
MSI
BIAS
ANT
NR
REC
A/B
AEQ
REC1
DUB
BEQ
TAR
A.GND
TAL
J304
TO ENH-251-1

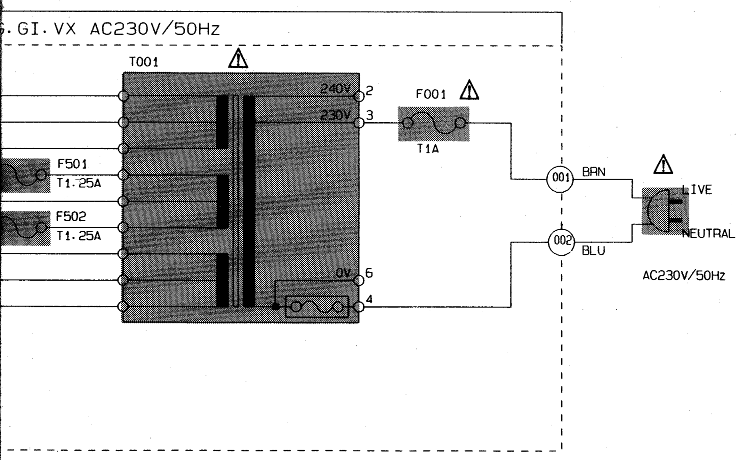
REF NO	A. BS. EF. EN. G. GI. VX	J. C U. US. UT	REF NO	A. BS. EF. EN. G. GI. VX	J. C U. US. UT
C1301	USE	NONE	EP301	EMZ4002-001Z	NONE
C1302	USE	NONE			
L1301	USE	SHORT			
L1302	USE	SHORT			

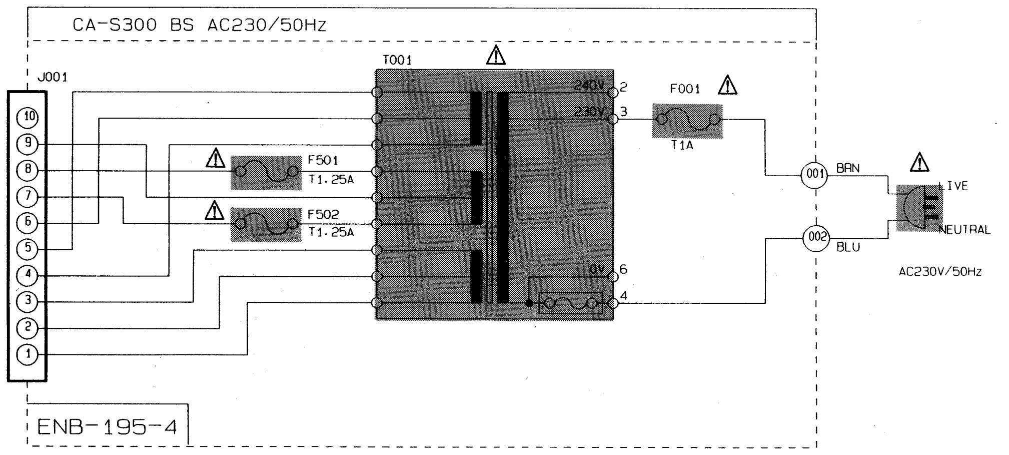
■ Power Section


CA-S300 U. US. UT
AC110V/127V/220V/230V-240V ~50Hz/60Hz
T001
J501
128V
18V
0V
126V
110V
0V
F501
T1.25A
F502
T1.25A
F001
T2A
001
002
AC110V/127V/220V/230V-240V
50Hz/60Hz
S001
F002
T1A
ENB-195-4
VOLTAGE SELECTOR LOCATION
110V
127V
220V
240V

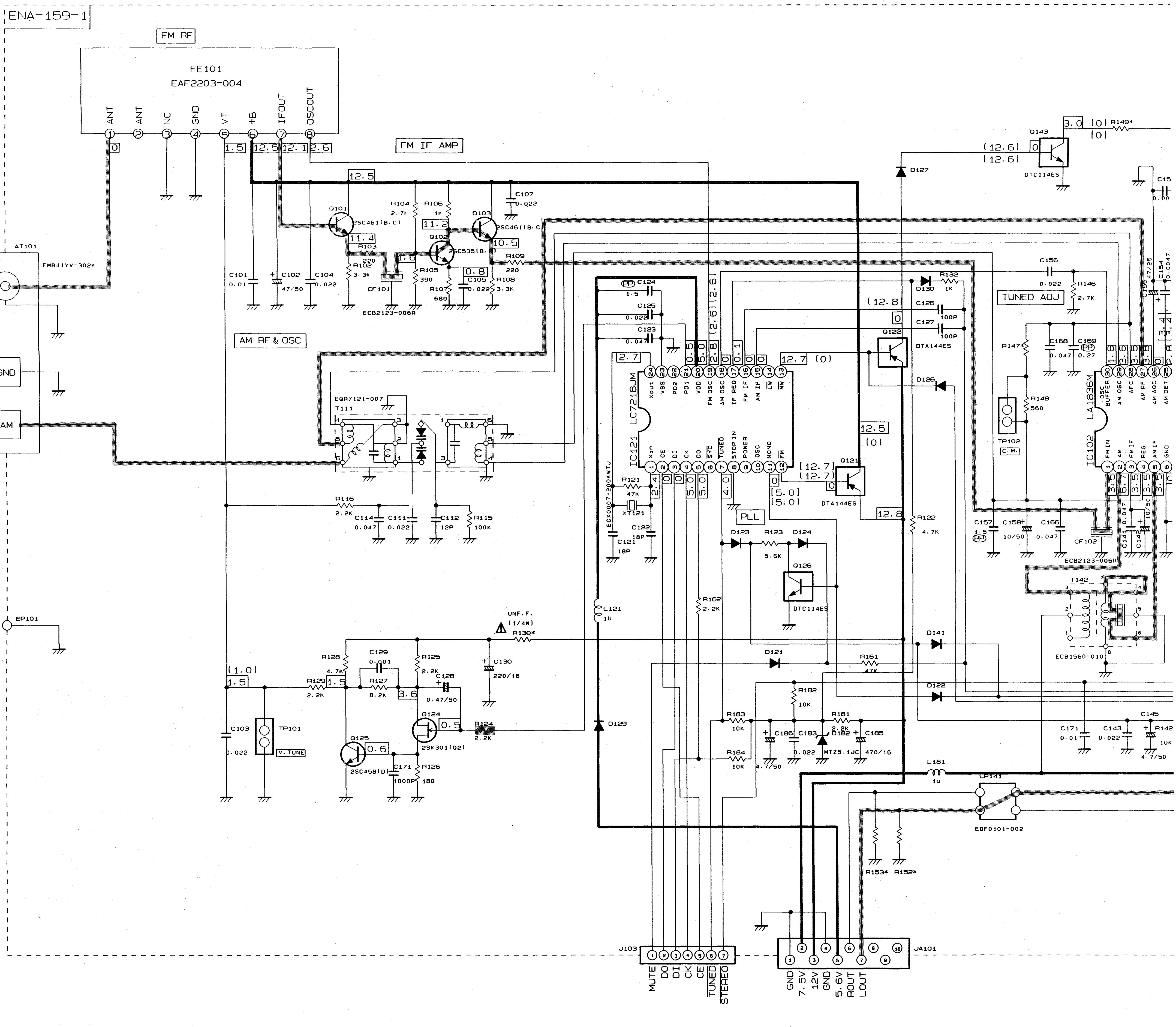

CA-S300 A AC240V/50Hz
T001
J501
240V
230V
0V
F001
T1A
F501
T1.25A
F502
T1.25A
001
BRN
002
BLU
LIVE
NEUTRAL
AC240V/50Hz
ENB-195-4


CA-S300 EF. EN. G. GI. VX AC230V/50Hz
T001
J501
240V
230V
0V
F001
T1A
F501
T1.25A
F502
T1.25A
001
BRN
002
BLU
ENB-195-4

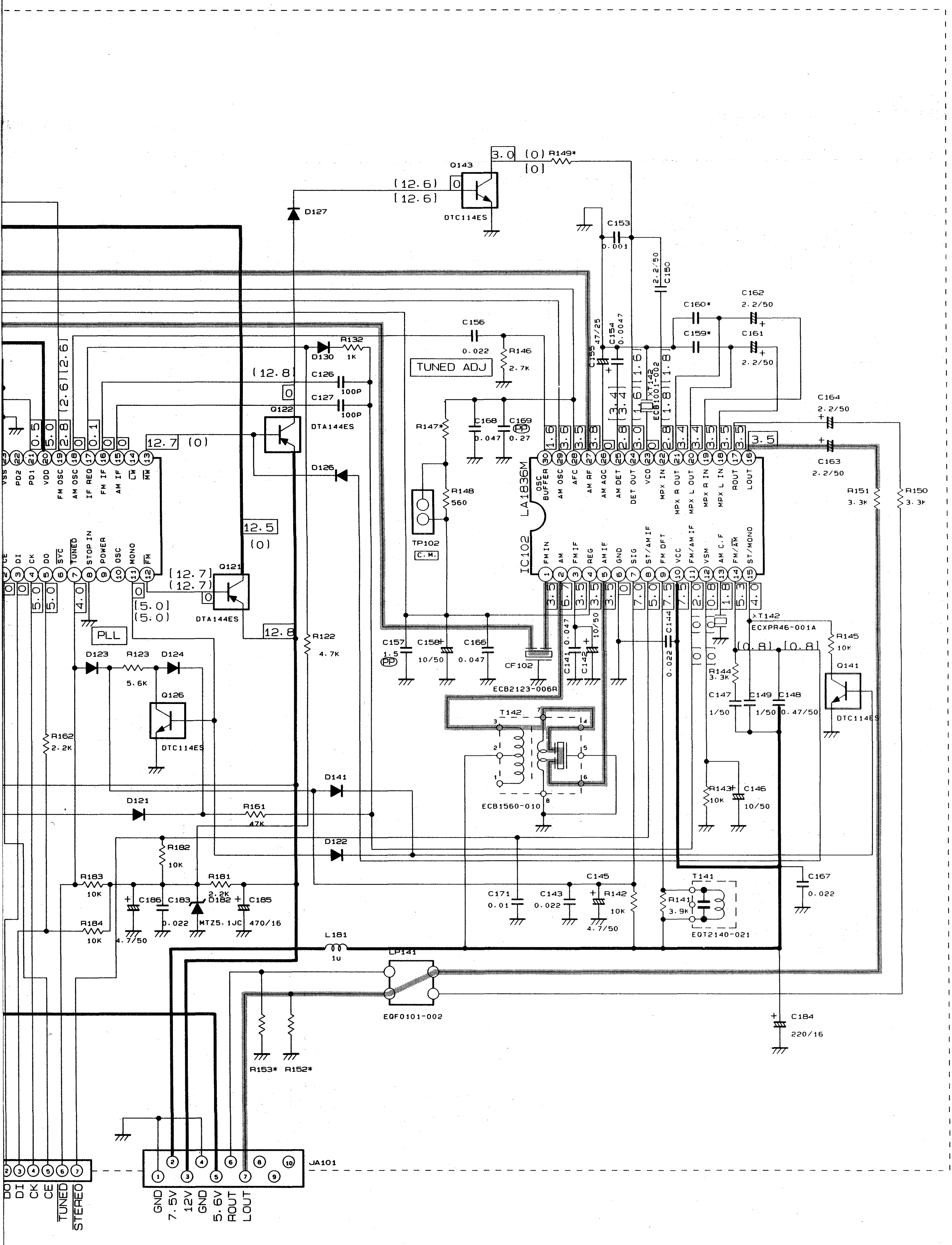

.GI.VX AC230V/50Hz
T001
F501
T1.25A
F502
T1.25A
240V
2
230V
3
0V
6
4
F001
T1A
001
BRN
002
BLU
LIVE
NEUTRAL
AC230V/50Hz


CA-S300 BS AC230/50Hz
J001
10
9
8
7
6
5
4
3
2
1
T001
F501
T1.25A
F502
T1.25A
240V
2
230V
3
0V
6
4
F001
T1A
001
BRN
002
BLU
LIVE
NEUTRAL
AC230V/50Hz
ENB-195-4

■ Tuner Section (A, J, C, U, US, UT)



ENA-159-1
FM RF
FE101
EAF2203-004
ANT
ANT
NC
GND
VT
+B
IFOUT
OSCOUT
FM IF AMP
AT101
EMB41YV-302K
FM
GND
AM
Q101
2SC461(B,C)
Q102
2SC535(B,C)
Q103
2SC461(B,C)
R104 2.7K
R106 1K
C107 0.022
R103 220
R102 3.3K
R105 390
R107 680
C105 0.022
R108 3.3K
R109 220
C101 0.01
C102 47/50
C104 0.022
CF101
ECB2123-006R
AM RF & OSC
EQR7121-007
T111
R116 2.2K
C114 0.047
C111 0.022
C112 12P
R115 100K
EP101
UNF.F. (1/4W)
R130*
C130 220/16
R128 4.7K
C129 0.001
R125 2.2K
C128 0.47/50
R127 8.2K
R129 2.2K
Q124
2SK301(Q2)
R124 2.2K
Q125
2SC458(D)
C171 1000P
R126 180
C103 0.022
TP101
V.TUNE
IC121 LC7218JM
PLL
C124 1.5
C125 0.022
C123 0.047
R121 47K
XT121
ECX0007-200KWTJ
C121 18P
C122 18P
L121 1U
D129
R162 2.2K
D123
R123 5.6K
D124
Q126
DTC114ES
Q121
DTA144ES
Q122
DTA144ES
D127
D130
R132 1K
C126 100P
C127 100P
D126
R122 4.7K
D141
D121
R161 47K
D122
R182 10K
R183 10K
C186
C183 0.022
D182 MTZ5.1JC
R181 2.2K
C185 470/16
R184 10K
4.7/50
L181 1U
LP141
EQF0101-002
R153*
R152*
Q143
DTC114ES
R149*
TUNED ADJ
C156 0.022
R146 2.7K
R147*
C168 0.047
C169 0.27
R148 560
TP102
C.M.
IC102 LA1836M
C157 1.5
C158 10/50
C166 0.047
CF102
ECB2123-006R
T142
ECB1560-010
C171 0.01
C143 0.022
C145
R142 10K
4.7/50
J103
MUTE
DO
DI
CK
CE
TUNED
STEREO
JA101
GND
7.5V
12V
GND
5.6V
ROUT
LOUT


Q143
DTC114ES
3.0
(0)
R149*
(12.6)
[12.6]
D127
C153
0.001
2.2/50
C150
C156
0.022
R146
2.7K
TUNED ADJ
C155
47/25
C154
0.0047
C160*
C159*
C162
2.2/50
C161
2.2/50
C164
2.2/50
C163
2.2/50
R151
3.3K
R150
3.3K
D130
R132
1K
C126
100P
C127
100P
12.8
Q122
DTA144ES
R147*
C168
0.047
C169
0.27
R148
560
TP102
C.M.
LA1836M
IC102
OSC BUFFER
AM OSC
AFC
AM RF
AM AGC
AM DET
DET OUT
VCO
MPX IN
MPX R OUT
MPX L OUT
MPX R IN
MPX L IN
ROUT
LOUT
FM IN
AM
FM IF
REG
AM IF
GND
SIG
ST/AM IF
FM DET
VCC
FM/AM IF
VSM
AM C.F
FM/AM
ST/MONO
ECXPR46-001A
T142
R145
10K
Q141
DTC114ES
D126
12.5
(0)
12.7
(0)
Q121
DTA144ES
[12.7]
(12.7)
[5.0]
(5.0)
PLL
12.8
R122
4.7K
VSS
PD2
PD1
VDD
FM OSC
AM OSC
IF REQ
FM IF
AM IF
LW
MW
CE
DI
CK
DO
SYC
TUNED
STOP IN
POWER
OSC
MONO
FM
D123
R123
5.6K
D124
Q126
DTC114ES
C157
1.5
C158
10/50
C166
0.047
CF102
ECB2123-006A
C141
0.047
C142
10/50
C144
0.022
T142
ECB1560-010
R144
3.3K
C147
1/50
C149
1/50
C148
0.47/50
R143
10K
C146
10/50
R162
2.2K
D141
D121
R161
47K
D122
R182
10K
R183
10K
R181
2.2K
R184
10K
C186
4.7/50
C183
0.022
D182
MTZ5.1JC
C185
470/16
C171
0.01
C143
0.022
C145
R142
10K
4.7/50
T141
R141
3.9K
EQT2140-021
C167
0.022
L181
1U
LP141
EQF0101-002
C184
220/16
R153*
R152*
JA101
GND
7.5V
12V
GND
5.6V
ROUT
LOUT
DO
DI
CK
CE
TUNED
STEREO

*REMARKS

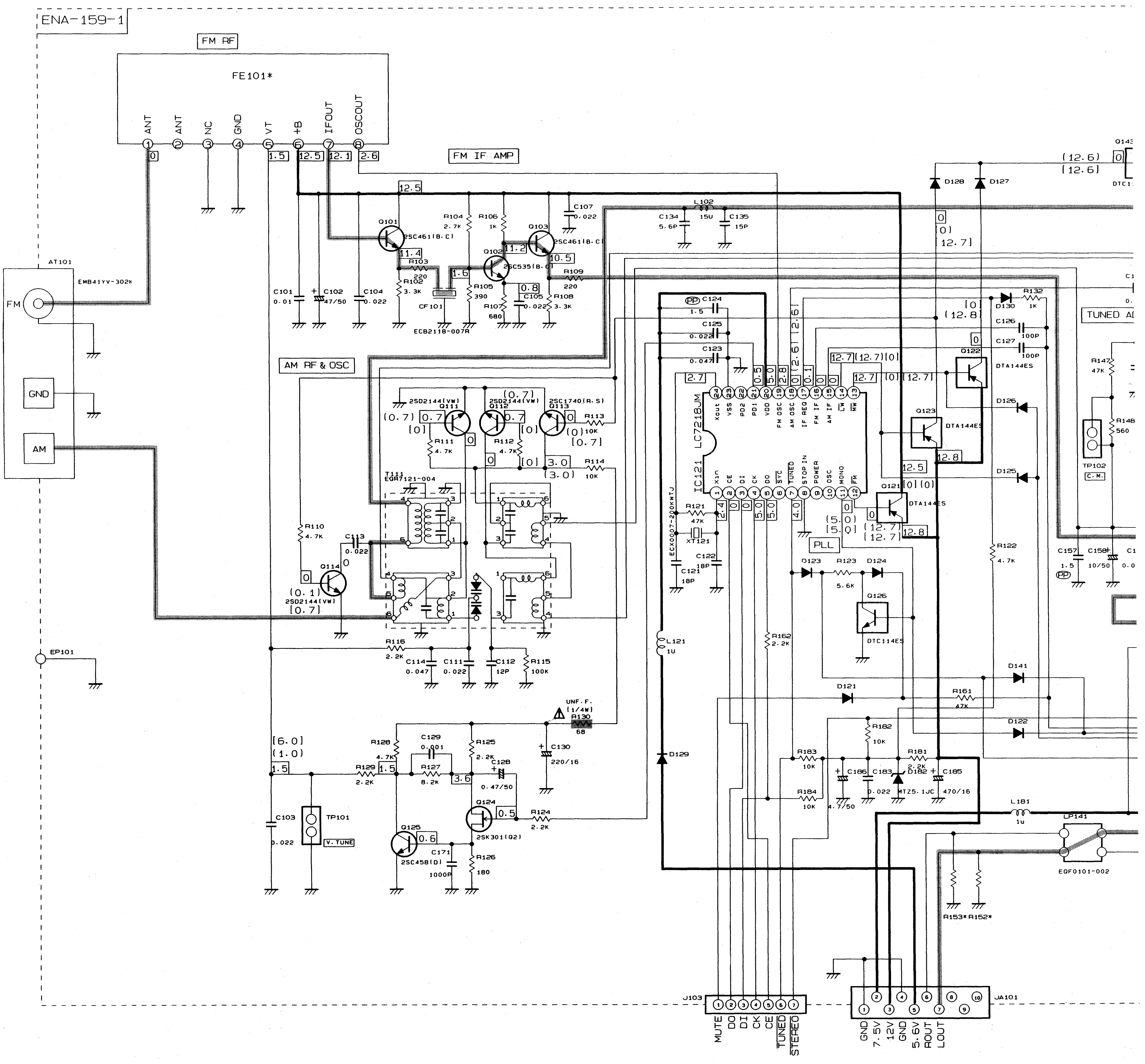
VER	A	J. C	U. US. UT
R147	47K	22k	47K
R149	10K	22K	22K
R152. R153	8.2K	3.3K	3.3K
R130	QRZ0077-680X	QRD14CJ-680SX	QRZ0077-680X
C159. C160	0.022	0.033	0.033

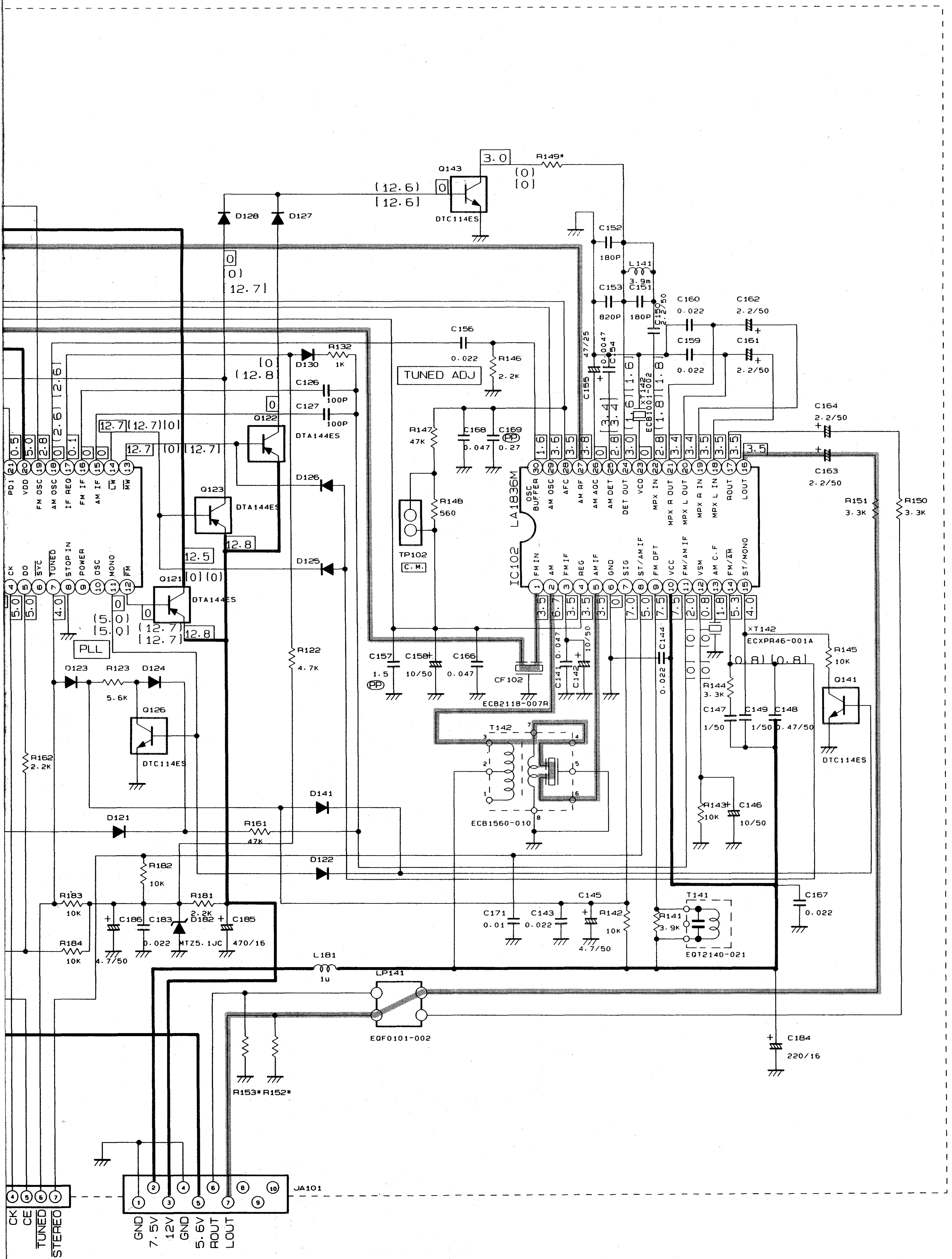
NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL. CONDITION.
   ☐ FM AUTO SIGNAL ( ) MW NO SIGNAL [ ] LW NO SIGNAL
   VOLATGES INDICATE FOR FM ONLY ARE CONSIDERED COMMON FOR BOTH AM/FM.
2. UNLESS OTHERWISE SPECIFIED
   ALL RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).
   ALL DIODES ARE 1SS133T-77 TYPE

Ⓟ POLYPROPYLENE CAPACITOR
Ⓜ 50V± 5% MYLAR CAPACITOR OR 50V± 5% THIN FILM CAPACITOR

■ Tuner Section (BS, EF, EN, G, GI, VX)


ENA-159-1
FM RF
FE101*
ANT
ANT
NC
GND
VT
+B
IFOUT
OSCOUT
FM IF AMP
AT101
EMB41YV-302K
FM
GND
AM
EP101
Q101 2SC461(B,C)
Q102 2SC535(B,C)
Q103 2SC461(B,C)
CF101
ECB2118-007R
AM RF & OSC
Q111 2SD2144(VW)
Q112 2SD2144(VW)
Q113 2SC1740(R,S)
Q114 2SD2144(VW)
T111 EQR7121-004
IC121 LC7218JM
PLL
XT121
ECX0007-200KHTJ
Q121 DTA144ES
Q122 DTA144ES
Q123 DTA144ES
Q126 DTC114ES
Q124 2SK301(Q2)
Q125 2SC458(D)
TP101 V.TUNE
TP102 C.M.
UNF.F. (1/4W) R130 68
L102 15U
L121 1U
L181 1U
LP141 EQF0101-002
TUNED AD
MUTE
DO
DI
CK
CE
TUNED
STEREO
J103
JA101
GND
7.5V
12V
GND
5.6V
ROUT
LOUT


Q143
DTC114ES
R149*
3.0
(12.6)
[12.6]
D128
D127
C152
180P
L141
3.9m
C153
820P
C151
180P
C160
0.022
C162
2.2/50
C159
0.022
C161
2.2/50
C156
0.022
R146
2.2K
TUNED ADJ
D130
R132
1K
C126
100P
C127
100P
Q122
DTA144ES
Q123
DTA144ES
Q121
DTA144ES
D126
D125
R147
47K
C168
0.047
C169
0.27
R148
560
TP102
C.M.
LA1836M
IC102
OSC BUFFER
AM OSC
AFC
AM RF
AM AGC
AM DET
DET OUT
VCO
MPX IN
MPX R OUT
MPX L OUT
MPX R IN
MPX L IN
ROUT
LOUT
FM IN
AM
FM IF
REG
AM IF
GND
SIG
ST/AM IF
FM DFT
VCC
FM/AM IF
VSM
AM C.F
FM/AM
ST/MONO
C164
2.2/50
C163
2.2/50
R151
3.3K
R150
3.3K
PD1
VDD
FM OSC
AM OSC
IF REQ
FM IF
AM IF
LW
MW
CK
DO
STG
TUNED
STOP IN
POWER
OSC
MONO
FM
PLL
C157
1.5
C158
10/50
C166
0.047
CF102
ECB2118-007R
T142
ECB1560-010
XT142
ECXPR46-001A
R145
10K
Q141
DTC114ES
R144
3.3K
C147
1/50
C149
1/50
C148
0.47/50
R143
10K
C146
10/50
D123
R123
5.6K
D124
Q126
DTC114ES
R162
2.2K
R122
4.7K
D141
D121
R161
47K
D122
R182
10K
R183
10K
C186
C183
0.022
D182
MTZ5.1JC
R181
2.2K
C185
470/16
R184
10K
4.7/50
C171
0.01
C143
0.022
C145
R142
10K
4.7/50
R141
3.9K
T141
EQT2140-021
C167
0.022
L181
1u
LP141
EQF0101-002
C184
220/16
R153*
R152*
JA101
CK
CE
TUNED
STEREO
GND
7.5V
12V
GND
5.6V
ROUT
LOUT

*REMARKS

VER	BS	EF·EN·G·GI	VX
R149	22K	10K	10K
R151·R152	3.3K	8.2K	8.2K
FE101	EAF2203-005	EAF2203-005	EAF2302-002

NOTES

1. VOLTAGES ARE DC-MEASURED USING AN OSCILLOSCOPE WITH NO INPUT SIGNAL CONDITION.
   ☐ FM AUTO SIGNAL ( ) MW NO SIGNAL [ ] LW NO SIGNAL
   VOLTAGES INDICATE FOR FM ONLY ARE CONSIDERED COMMON FOR BOTH AM/FM.
2. UNLESS OTHERWISE SPECIFIED
   ALL RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN µF(P=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(µF)/RATED VOLTAGE (V).
   ALL DIODES ARE 1SS133T-77 TYPE
   (PP) POLYPROPYLENE CAPACITOR
   (M) 50V± 5% MYLAR CAPACITOR OR 50V± 5% THIN FILM CAPACITOR

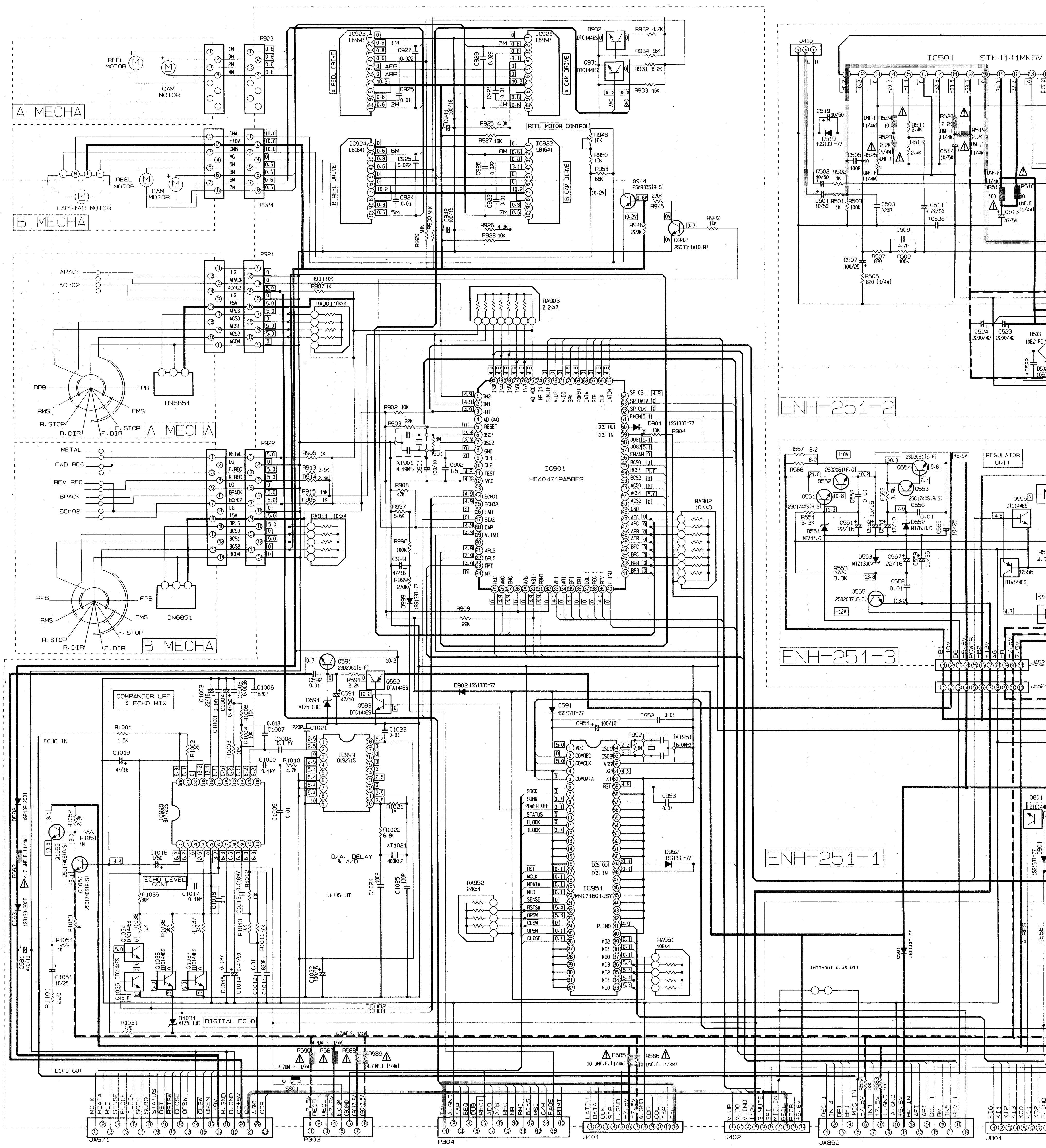
Notes:

1. —— indicates +B pow

2. ----- indicates –B pow

3. ▨ indicates main p

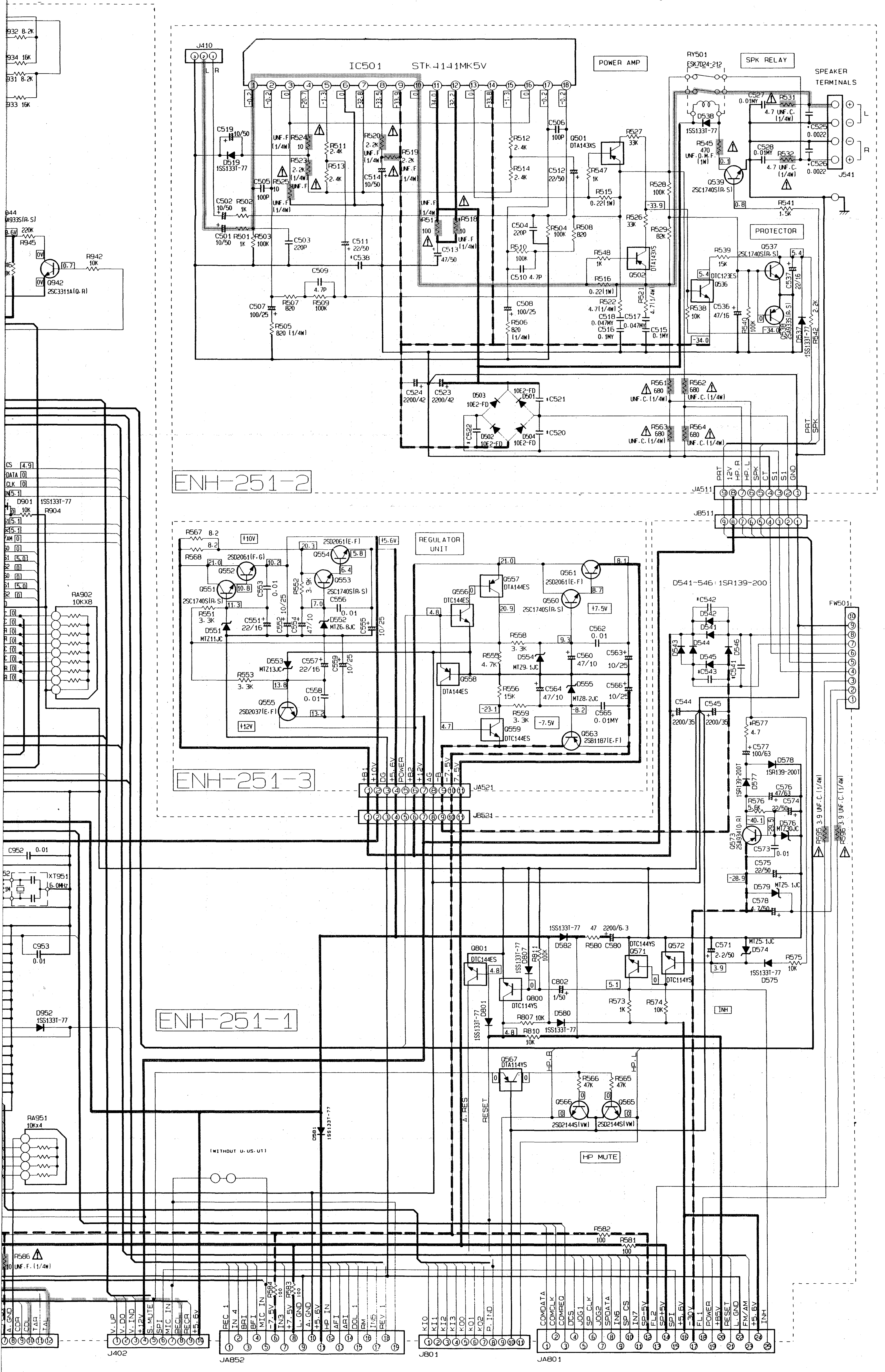
■ Control Amp. Section


A MECHA
B MECHA
REEL MOTOR
CAM MOTOR
CAPSTAN MOTOR
P923
P924
P921
P922
IC923 LB1641
IC921 LB1641
IC924 LB1641
IC922 LB1641
A REEL DRIVE
A CAM DRIVE
B REEL DRIVE
B CAM DRIVE
REEL MOTOR CONTROL
Q931 DTC144ES
Q932 DTC144ES
Q944 2SA933S(R-S)
Q942 2SC3311A(Q-R)
DN6851
RPB
FPB
RMS
FMS
R. STOP
F. STOP
R. DIR
F. DIR
APACK
ACr02
METAL
FWD REC
REV REC
BPACK
BCr02
RA901 10Kx4
RA911 10Kx4
RA903 2.2Kx7
RA902 10KX8
IC901
HD404719A58FS
XT901 4.19MHz
Q591 2SD2061(E.F)
Q592 DTA144ES
Q593 DTC144ES
D591 MTZ5.6JC
D902 1SS133T-77
COMPANDER. LPF & ECHO MIX
ECHO IN
ECHO OUT
IC998 BA7755
IC999 BU9251S
D/A. DELAY & A/D
U-US-UT
XT1021 400KHZ
ECHO LEVEL CONT
Q1034 DTC144ES
Q1035 DTC144ES
Q1036 DTC144ES
Q1037 DTC144ES
D1031 MTZ5.1JC
DIGITAL ECHO
Q1051 2SC1740S(R.S)
Q1052 2SC1740S(R.S)
IC951
MN171601JSY
XT951 6.0MHz
RA952 22Kx4
RA951 10Kx4
D591 1SS133T-77
D952 1SS133T-77
SS01
ENH-251-1
ENH-251-2
ENH-251-3
J410
IC501
STK-4141MK5V
REGULATOR UNIT
Q551 2SC1740S(R-S)
Q552 2SD2061(F.G)
Q553 2SC1740S(R-S)
Q554 2SD2061(E-F)
Q555 2SD2037(E-F)
D551 MTZ11JC
D552 MTZ6.8JC
D553 MTZ13JC
Q556 DTC144ES
Q558 DTA144ES
Q801
JA571
P303
P304
J401
J402
JA852
J801
JA52
JB52
(WITHOUT U-US-UT)

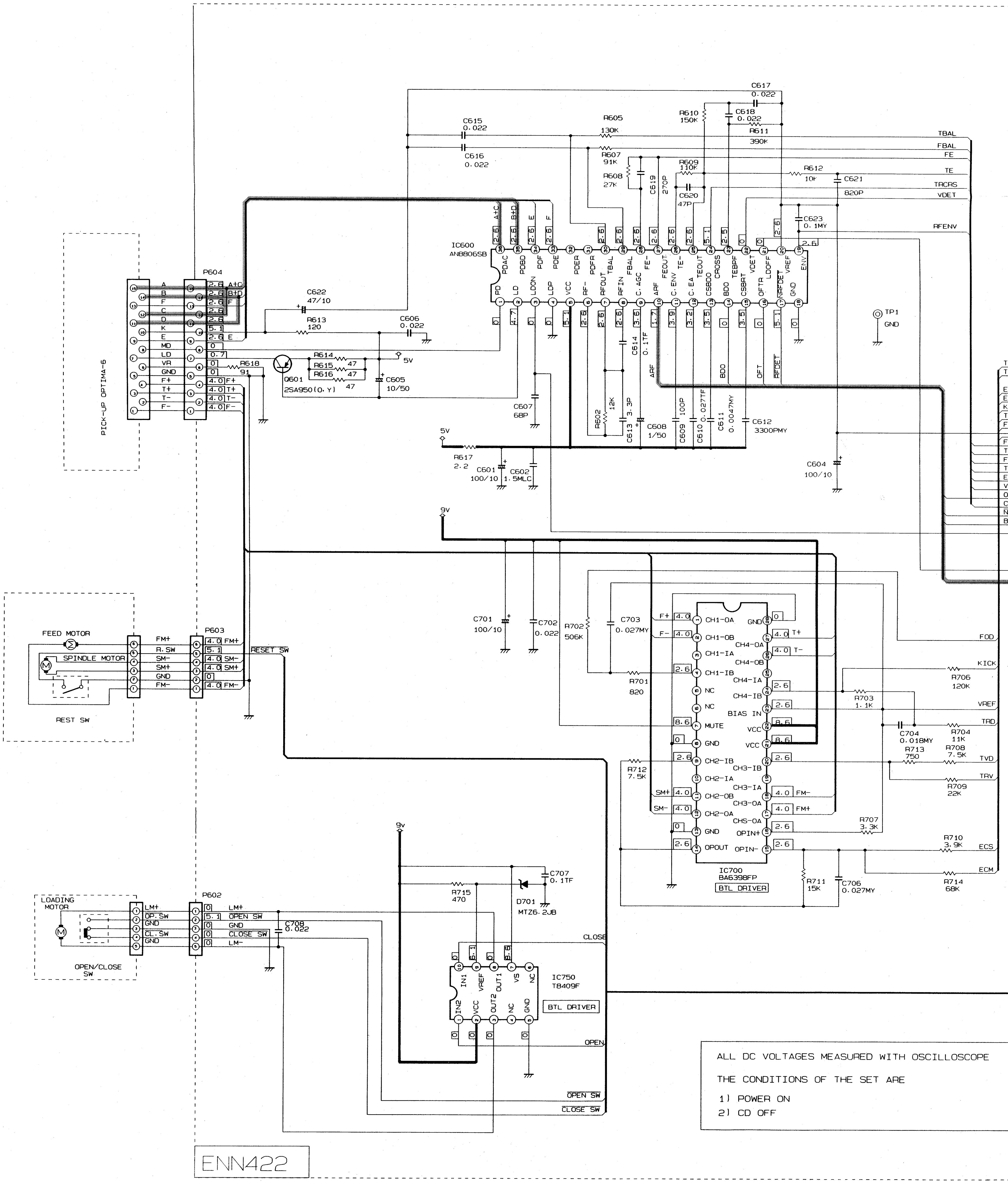
Notes:

1. ── indicates +B power supply.
2. ----- indicates –B power supply.
3. ▬ indicates main path.
4. When replacing the parts in the shaded are (▨) and those marked with ⚠, be sure to use the designated parts to ensure safety.
5. The design and contents are subject to change without notice.

	BS·EF·EN·G·GI·VX	A	U·US·UT
C541 - C543	0.1u	0.01u	0.01u
C520 - C522	0.1u	0.01u	0.01u
C525 - C526	USED	NONE	NONE
S501	USED	NONE	NONE
C527 - C528	0.1u	0.22u	0.22u


ENH-251-2
ENH-251-3
ENH-251-1
J410
IC501 STK4141MK5V
POWER AMP
RY501 ESK7024-212
SPK RELAY
SPEAKER TERMINALS
L
R
J541
PROTECTOR
REGULATOR UNIT
HP MUTE
D541-546 : 1SR139-200
FW501
JA511
JB511
JA521
JB521
PRT 12V HP_L HP_R SPK C.T S1 S1 GND
+B1 +10V CS POWER +5.6V +B2 +12V 49 +7.5V -7.5V
J402
JA852
J801
JA801
V.UP V.DO V.IND +12V S.MUTE SPI MIC IN REC.R REC.L +5.6V
REC.L IN 4 BRI BFI MIC IN R583 +7.5V L.GND +5.6V IN AFI ARI DOL 1 RM IN5 REC.1
KI0 KI1 KI2 KI3 KO0 KO1 KO2 P.IND
COMDATA COMCLK COMREQ DCS JOG1 JOG2 SP CLK SPDATA IN6 SP CS IN7 SP+5V SP+5V SPI +5.6V -30V FL POWER +B5V RESET L.GND FM/AM +5.6V INH
A.RES RESET
(WITHOUT U·US·UT)
Q501 DTA143XS
Q502 DTA143XS
Q536 DTC123ES
Q537 2SC1740S(R·S)
Q538 2SC1740S(R·S)
Q539 2SC1740S(R·S)
Q551 2SC1740S(R·S)
Q552 2SD2061(F·G)
Q553 2SC1740S(R·S)
Q554 2SD2061(E·F)
Q555 2SD2037(E·F)
Q556 DTC144ES
Q557 DTA144ES
Q558 DTA144ES
Q559 DTC144ES
Q560 2SC1740S(R·S)
Q561 2SD2061(E·F)
Q563 2SB1187(E·F)
Q565 2SD2144S(VW)
Q566 2SD2144S(VW)
Q567 DTA114YS
Q571 DTC144YS
Q572 DTC114YS
Q573 2SA934(Q·R)
Q800 DTC114YS
Q801 DTC144ES
Q942 2SC3311A(Q·R)
D501-D504 10E2-FD
D551 MTZ11JC
D552 MTZ6.8JC
D553 MTZ13JC
D554 MTZ9.1JC
D555 MTZ8.2JC
D576 MTZ30JC
D578 1SR139-200T
D579 MTZ5.1JC
D574 MTZ5.1JC
D519 1SS133T-77
D538 1SS133T-77
D580 1SS133T-77
D582 1SS133T-77
D575 1SS133T-77
D901 1SS133T-77
D952 1SS133T-77
XT951 6.0MHz
RA902 10KX8
RA951 10Kx4
R586 UNF.F.(1/4W)

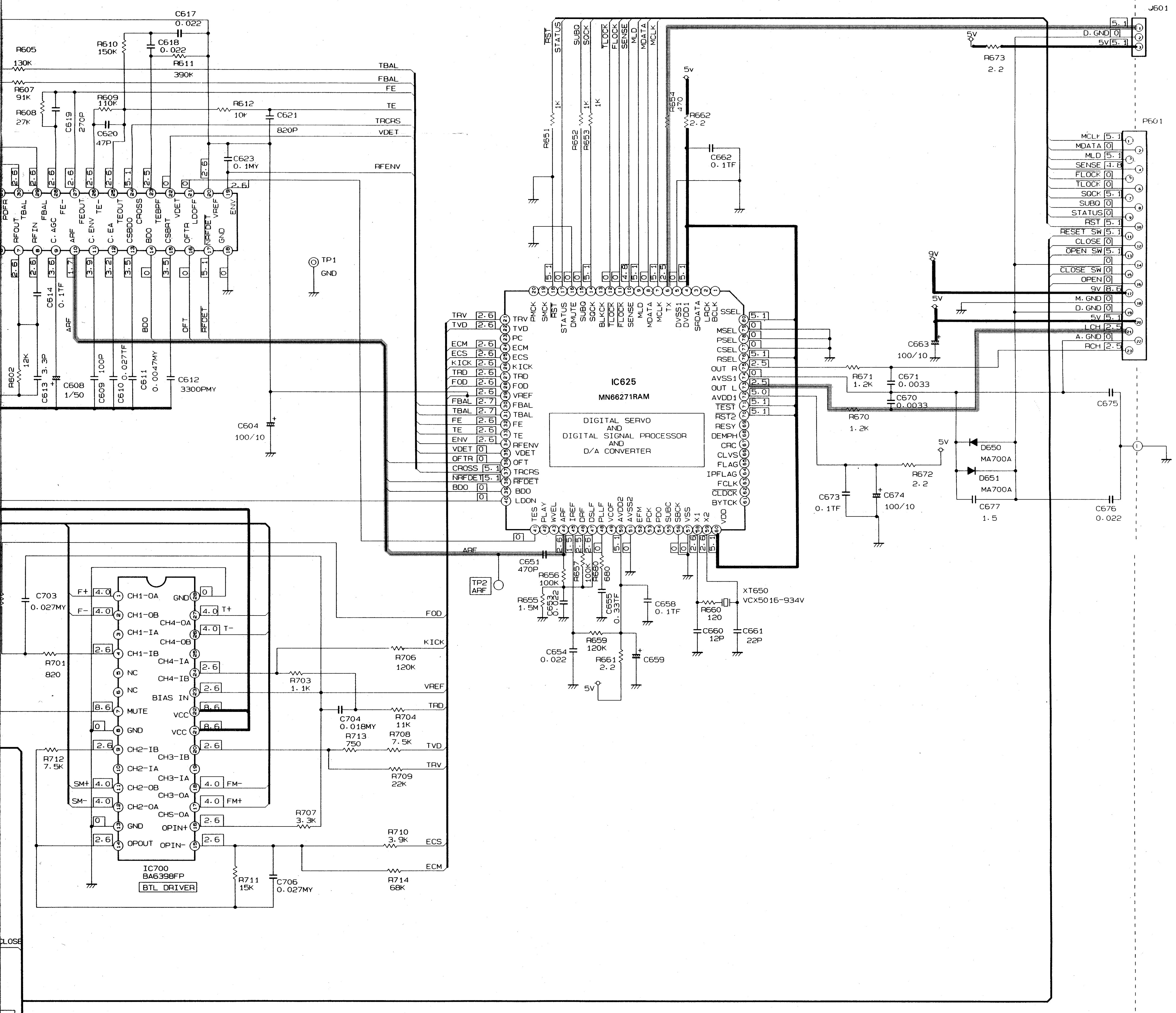
■ CD Servo


IC600
AN8806SB
IC700
BA6398FP
BTL DRIVER
IC750
TB409F
BTL DRIVER
P604
P603
P602
PICK-UP OPTIMA-6
FEED MOTOR
SPINDLE MOTOR
REST SW
LOADING MOTOR
OPEN/CLOSE SW
Q601
2SA950(O.Y)
D701
MTZ6.2JB
TP1
GND
5V
9V
TBAL
FBAL
FE
TE
TRCRS
VDET
RFENV
FOD
KICK
VREF
TRD
TVD
TRV
ECS
ECM
CLOSE
OPEN
OPEN SW
CLOSE SW
RESET SW
ENN422

ALL DC VOLTAGES MEASURED WITH OSCILLOSCOPE

THE CONDITIONS OF THE SET ARE

1) POWER ON
2) CD OFF


IC625
MN66271RAM
DIGITAL SERVO
AND
DIGITAL SIGNAL PROCESSOR
AND
D/A CONVERTER
IC700
BA6398FP
BTL DRIVER
J601
P601
TP1
GND
TP2
ARF
XT650
VCX5016-934V
D650
MA700A
D651
MA700A
C617 0.022
C618 0.022
R605 130K
R607 91K
R608 27K
R609 110K
R610 150K
R611 390K
R612 10K
C619 270P
C620 47P
C621 820P
C623 0.1MY
C604 100/10
C608 1/50
C609 100P
C610 0.027TF
C611 0.0047MY
C612 3300PMY
C613 3.3P
C614 0.1TF
R602 12K
R651 1K
R652 1K
R653 1K
R654 470
R662 2.2
C662 0.1TF
R673 2.2
C663 100/10
R671 1.2K
C671 0.0033
R670 1.2K
C670 0.0033
R672 2.2
C673 0.1TF
C674 100/10
C675
C676 0.022
C677 1.5
C651 470P
R656 100K
R655 1.5M
C653 22
R657 100K
R680 680
C655 0.33TF
C658 0.1TF
R660 120
C660 12P
C661 22P
R659 120K
C654 0.022
R661 2.2
C659
C703 0.027MY
R701 820
R706 120K
R703 1.1K
C704 0.018MY
R704 11K
R713 750
R708 7.5K
R709 22K
R712 7.5K
R707 3.3K
R710 3.9K
R711 15K
C706 0.027MY
R714 68K
TBAL
FBAL
FE
TE
TRCRS
VDET
RFENV
FOD
KICK
VREF
TRD
TVD
TRV
ECS
ECM
ARF
5V
9V
MCLK
MDATA
MLD
SENSE
FLOCK
TLOCK
SQCK
SUBQ
STATUS
RST
RESET SW
CLOSE
OPEN SW
CLOSE SW
OPEN
M.GND
D.GND
LCH
A.GND
RCH
CH1-OA
CH1-OB
CH1-IA
CH1-IB
NC
MUTE
GND
CH2-IB
CH2-IA
CH2-OB
CH2-OA
OPOUT
GND
CH4-OA
CH4-OB
CH4-IA
CH4-IB
BIAS IN
VCC
CH3-IB
CH3-IA
CH3-OA
CHS-OA
OPIN+
OPIN-
F+
F-
T+
T-
SM+
SM-
FM-
FM+

ALL DC VOLTAGES MEASURED WITH OSCILLOSCOPE

THE CONDITIONS OF THE SET ARE

1) POWER ON
2) CD OFF